

I. Introduction

After suffering years of genocide and persecution, the European Jewish community found themselves looking for hope, peace and freedom. For years following the second world war, thousands of Jewish refugees made the trek from a divided Europe to the holy land known as Palenstine.

In November 1947, the United Nations divided Palestine, then under British mandate, into Jewish and Arab states. On May 14, 1948 the State of Israel was proclaimed according to the UN partition plan. Less than 24 hours later, the regular armies of Egypt, Jordan, Syria, Lebanon and Iraq invaded the country, forcing Israel to defend the sovereignty it had regained in its ancestral homeland. In what became known as Israel's War of Independence, the newly formed, poorly equipped Israel Defense Forces (IDF) repulsed the invaders in fierce intermittent fighting, which lasted some 15 months and claimed over 6,000 Israeli lives (nearly one percent of the country's Jewish population at the time).

During the first few months of 1949, direct negotiations were conducted under UN auspices between Israel and each of the invading countries (except Iraq which has refused to negotiate with Israel to date), resulting in armistice agreements which reflected the situation at the end of the fighting. Accordingly, the coastal plain, Galilee and the entire Negev were within Israel's sovereignty, Judea and Samaria (the West Bank) came under Jordanian rule, the Gaza Strip came under Egyptian administration, and the city of Jerusalem was divided, with Jordan controlling the eastern part, including the Old City, and Israel the western sector.

The 1948 armistice agreements had not only failed to pave the way to permanent peace, but were also constantly violated by the Arab Nations. The Arab Nations retaliated against the September 1, 1951 resolution by blocking Israeli and Israel-bound shipping passing through the Suez Canal; the blockade of the Straits of Tiran was tightened; incursions into Israel of terrorist squads from neighboring Arab countries for murder and sabotage occurred with increasing frequency; and the Sinai peninsula was gradually converted into a huge Egyptian military base.

Upon the signing of a tripartate military alliance by Egypt, Syria and Jordan (October 1956), the imminent threat to Israel's existence was intensified. In the course of an eight-day campaign, the IDF captured the Gaza Strip and the entire Sinai peninsula, halting 10 miles (16 km.) east of the Suez Canal. A United Nations decision to station a UN Emergency Force (UNEF) along the Egypt-Israel border and Egyptian assurances of free navigation in the Gulf of Eilat led Israel to agree to withdraw in stages (November 1956 - March 1957) from the areas taken a few weeks earlier. Consequently, the Straits of Tiran were opened, enabling the development of trade with Asian and East African countries as well as oil imports from the Persian Gulf.

Hopes for another decade of relative tranquillity were dashed with the escalation of Arab terrorist raids across the Egyptian and Jordanian borders, persistent Syrian artillery bombardment of agricultural settlements in northern Galilee and massive military build-ups by the neighboring Arab states. When Egypt again moved large numbers of troops into the Sinai desert (May 1967), ordered the UN peacekeeping forces (deployed since 1957) out of the area, reimposed the blockade of the Straits of Tiran and entered into a military alliance with Jordan, Israel found itself faced by hostile Arab armies on all fronts.

As Egypt had violated the arrangements agreed upon following the 1956 Sinai Campaign, Israel invoked its inherent right of self-defense, launching a preemptive strike (5 June 1967) against Egypt in the south, followed by a counterattack against Jordan in the east and the routing of Syrian forces entrenched on the Golan Heights in the north.

At the end of six days of fighting, previous cease-fire lines were replaced by new ones, with Judea, Samaria, Gaza, the Sinai peninsula and the Golan Heights under Israel's control. As a result, the northern villages were freed from 19 years of recurrent Syrian shelling; the passage of Israeli and Israel-bound shipping through the Straits of Tiran was ensured; and Jerusalem, which had been divided under Israeli and Jordanian rule since 1949, was reunified under Israel's authority.

The war over, Israel's diplomatic challenge was to translate its military gains into a permanent peace based on UN Security Council Resolution 242, which called for "acknowledgment of the sovereignty, territorial integrity and political independence of every state in the area and their right to live in peace within secure and recognized boundaries free from threats or acts of force." However, the Arab position, as formulated at the Khartoum Summit (August 1967) called for "no peace with Israel, no negotiations with Israel and no recognition of Israel." In September 1968, Egypt initiated a 'war of attrition,' with sporadic, static actions along the banks of the Suez Canal, which escalated into full-scale, localized fighting, causing heavy casualties on both sides. Hostilities ended in 1970 when Egypt and Israel accepted a renewed cease-fire along the Suez Canal.

Three years of relative calm along the borders were shattered on Yom Kippur (Day of Atonement), the holiest day of the Jewish year, when Egypt and Syria launched a coordinated surprise assault against Israel (6 October 1973), with the Egyptian army crossing the Suez Canal and Syrian troops penetrating the Golan Heights. During the next three weeks, the Israel Defense Forces turned the tide of battle and repulsed the attackers, crossing the Suez Canal into Egypt and advancing to within 20 miles (32 km.) of the Syrian capital, Damascus. Two years of difficult negotiations between Israel and Egypt and between Israel and Syria resulted in disengagement agreements, according to which Israel withdrew from parts of the territories captured during the war.

Welcome to TalonSoft's Divided Ground!

Divided Ground is a tactical level game portraying some of the most significant and challenging battles fought between Israel and the Arab Nations. Refight major battles from four wars (1948, 56, 67 and 73) controlling five nations (Israel, Egypt, Iraq, Jordan and Syria). You have the option of playing single battles or try your hand at a full-fledged campaign consisting of numerous linked scenarios. Pit your tactics and strategy against a competent and customized computer A/I guided by many of the industry's most experienced wargame scenario designers. Finally, for a challenge that brings in all the intangibles of "the human equation" to life, engage other Divided Ground Aficionados in head to head, network, or Internet play for an unforgettable and riveting experience in tactical gaming.

Each scenario is played on a unique map with five "view modes". Most scenario maps are based on historically-accurate war-era 1:50,000 scale maps actually used by Israeli and Arab Nation commanders during the war. Combat is performed on a "hex-grid" map that has defined wargaming for over three decades. Each "hex" represents 250 meters; with four hexes to a kilometer or 6½ hexes to a mile. Turns are equivalent to approximately 6 minutes of real time. Each scenario has a variable number of Game Turns, in which you and your opponent attempt to capture or defend objectives and smash more enemy troops than you lose. Every conceivable type of battle action is represented in the

scenario selection: meeting engagements, armored breakthroughs, trench defenses, exploitation, reconnaissance, battles of attrition, mobile defenses and much more.

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III. Getting Started

There are a variety of ways to play *TalonSoft's Divided Ground*. The game provides you to lead your command through grueling scenarios in four Linked campaigns. However, it may be easier for you to start with one of our numerous pre-made scenarios based on actual battles that were fought.

Selecting Your Game

The main selection screen will allow you to choose which type of scenario you wish to play.

Play Scenario: Selecting this option will allow you to choose from a variety of pre-designed scenarios. For details on playing a scenario, see section IV. Playing a Scenario.

Play Campaign: Selecting this option will allow you to begin a "Linked Campaign Game".

The Scenario Types

Campaign Series allows you to play scenarios individually or against a human opponent.

First select the type of scenario you wish to play: Standard, Modern (Caller or Host), Play-by-E-mail or (two-player) Hot-Seat.

Select **Start a New Game** to proceed to a listing of our pre-designed scenarios.

Select **Resume Saved Game** to continue a previously saved scenario. **Note:** Do not select this option if you wish to continue a Campaign Game. To continue a saved Campaign Game you must select **Play Campaign** from the Main Menu.

The Scenarios Screen

Starting a New Scenario

Scenario titles are listed in the large window in the upper left of the screen. The scenarios can be displayed in a variety of ways; e.g., by complexity rating (the default listing method), by historical date, alphabetically by filename, etc). To change the way the scenarios are listed, press the button to the right of each small "window" on the "Scenarios" screen.

Note: After pressing a button, please allow the program a few moments to reorganize the scenario listing.

To scroll through the scenarios use the arrows along the side of their titles. Note that the "double arrows" can be used to move up and down the list in a "Page Up" and "Page Down" fashion. As a scenario's title is highlighted the information displayed in the various windows is updated to show the information for that scenario.

The complexity rating is determined by the total number of units on both sides that could potentially appear during that scenario (including all reinforcements). Refer to the chart below.

Once you have chosen a new scenario, click on **OK** to proceed to the battle.

Resuming a Saved Scenario

When you select "Resume a Saved Scenario" from the Main Menu, less information is displayed on the Scenarios screen than when you are starting a new game. This is because

the program reads the information from the saved-game file, and not all of the info that is displayed for a new scenario is recorded in the saved-game file.

The titles of the scenarios you have previously saved are listed on the top left of the screen. If you have played the same scenario different times and have multiple saved games for the same title they will all be listed. In this case you will need to scroll through the scenario names, with the arrows alongside the titles, but observe the different *file names* listed in the File Name window on the right to find the game you wish to resume.

Once you have chosen a scenario to resume, click on **OK** to proceed to the battle.

IV. Playing a Scenario

A/I Selection

Soon after selecting a scenario to play and launching the game you will see the "A/I Selection" dialog.

The type of A/I you choose will determine the amount of control the game's "Artificial Intelligence" (A/I) exerts on play. When a side has "Computer" or "Computer with FOW" A/I selected, the program will make *all* the decisions for that side and automatically conduct all appropriate actions, such as firing and moving.

The A/I can be used in three modes: Manual, Computer, and Computer with FOW (Fog-of-War). Any one mode can be applied to each side.

Manual equals "no A/I". Select this for a side if you want to make *all* the decisions for that side, including conducting all moves and attacks for it. This is the default mode for both sides.

If you select **Computer** for a side, the program will handle *all* the decisions and actions for that side.

If you select **Computer with FOW** (Fog-of-War) for a side, the program will handle all the decisions and actions for that side, and Fog of War will be in effect. If Fog of War is on, you can only see enemy units that are in the Line of Sight (LOS) of one or more of your on-map units. This mode is most appropriate when you want to control one side and have the program control the other.

The **Advantage** bar at the bottom of the A/I Selection screen allows you to balance play between two players of unequal skill or to balance play against the A/I. To set an Advantage, hold down the left mouse button over the slider bar control and move it to the left or right (the keyboard's arrow keys can also be used to adjust the advantage). Advantage values can range from 0 to 100 for either side. Depending on the value you

Complexity Rating Chart

Complexity #	# of Units in Scenario		
1	1-20	6	201-280
2	21-50	7	281-380
3	51-90	8	381-500
4	91-140	9	501-750
5	141-200	10	> 750
Complexity #	# of Units in Scenario		

set,

the side with the advantage will inflict higher than normal combat losses on the other side, and suffer lower than normal combat losses themselves. Advantage must be set before play begins in E-Mail, Modern Play and Two-Player Hot Seat games. Otherwise, the Advantage can be adjusted at any time during the game.

If you press the **Rules** button you will see a menu of Optional Rules that can be enabled or disabled to enhance game play for advanced players.

Once you have selected the A/I levels, set the Advantage, and chosen the Optional Rules you wish to use, press the **OK** button on the A/I Selection dialog and the program will automatically load the map and set up the units that begin play on the map (if any). Note that other units (for either or both sides) might be scheduled to arrive as reinforcements. To view a list of the reinforcement groups and their turn of arrival, select "Scheduled" from the "Reinforce" pop-down menu.

The Game Interface & Pop-Down Menus

The Main Game screen displays the scenario's map, which has six different viewing modes.

There is a "hidden" menu bar at the top of the screen. To display the Menu Bar, press the **M** hot key on your keyboard. If you exit the game with the menu bar displayed, it will still be displayed the next time you launch the game.



The "pop-down" menus of the Menu Bar and their commands are explained below. Many (but not all) menu items can be accessed by Tool Bar buttons and/or Hot Keys.

File Menu: Use this menu to save and/or exit a game, or to load a saved "replay" (*btr* extension) file.

Select **Save** to save the game you are playing.

Select **Save As** to save a game under a file name other than the one currently being used for it (**Note:** due to the structure of the campaign files, this feature is disabled if playing a campaign game mission).

Select **Replay** to view a recorded battle. To halt the replay, press the **Esc** key.

Select **Exit** to quit the scenario. If the current game has changed since the last time it was saved, a dialog will appear giving the option to save it before exiting (Exception: if playing a campaign game mission, it is saved without any prompt).

Turn Menu: Use this menu when you want to proceed from one turn to the next.

Select **Next** to advance the game to the next turn.

Units Menu: Use this menu to change the position of friendly units, and to initiate artillery and Air Attacks, as well as a host of other things, as explained below.

Select **To Top Of Stack** to move a selected unit to the top of its stack.

Select **To Bottom of Stack** to move a selected unit to the bottom of its stack.

Select **Load/Unload** to load a non-vehicular unit onto a vehicular unit, or to unload a unit that is currently a passenger.

Select **Toggle Digging-In** to give orders for an eligible infantry-type unit to begin con-

struction of an Improved Position.

Select **Double Time** before moving an infantry, cavalry or wagon unit and it will only pay three-fourths of the normal AP to enter a location.

Select **Damage Wall or Bridge** to have a selected engineer unit attempt to destroy a bridge or "high wall" hexside.

Select **Save AP's for Firing** to ensure that the selected unit reserves enough Action Points to get off at least one shot after it has expended AP for other purposes.

Select **Save AP's for Unloading** to ensure that the selected unit reserves enough Action Points to unload any passenger it may be transporting after it has expended AP for other purposes.

Select **Turn Clockwise** to change the facing of the selected unit one hexside in a clockwise direction (note the facing of the unit's 3D icon in the Info Box).

Select **Turn Counterclockwise** to change the facing of the selected unit one hexside in a counter-clockwise direction (note the facing of the unit's 3D icon in the Info Box).

Select **Air Attack** to initiate an Air Attack on the currently Hot-Spotted hex. A targeting marker is placed to denote the impending air strike, but the attack is always delayed at least one turn, sometimes several. Once plotted, an Air Attack cannot be cancelled.

Select **Artillery Dialog** to display the Artillery Dialog window which allows you to initiate attacks with Indirect Fire units. Note that all Indirect Fire attacks are not carried out until the following game turn.

Select **Assign Opportunity Fire** to display the Opportunity Fire (OpFire) dialog, which allows you to set (by firing- and target-unit types) the desired *maximum* ranges that your units will be allowed to conduct OpFire.

Select **Remove From Map** to voluntarily remove a unit from the map. Removal can occur only during your turn, and the unit must be in a map-edge hex (*any* map-edge hex—not necessarily an Exit Objective edge hex).

Select **Undo Last Movement** to cancel the entire movement of the most-recently-moved *still-selected* friendly unit, so you can instead move it in a different way (or not at all). This command is disabled during Modern play, Play By E-mail, and whenever Fog of War is in effect; e.g., during the campaign game.

Assault Menu: Use this menu to conduct assaults.

Select **Cancel Assault** to cancel an assault without resolving it.

Select **Add to Assault** to designate the currently-selected unit(s) as participating in the assault.

Select **Resolve Assault** to resolve the assault.

Select **Show Odds** to review the current assault odds (assault odds are not available if Fog of War is in effect).

Reinforce Menu: Use this menu to check on the availability of reinforcements.

Select **Scheduled** to display the reinforcements that are scheduled to arrive during the current scenario, as well as the per-turn arrival probability for each group. Double-clicking on the selection will bring up a Dialog Box listing the individual units of that reinforcement group. If Fog of War is in effect, only the reinforcements for the side currently having its Turn will be displayed; otherwise, all reinforcements will appear.

Select **Arrived** during a friendly turn to display the reinforcement groups that are cur-

rently available to be placed on the map.

Select **Releases** for a display listing the release times of Fixed units. Clicking once on an entry in the Release Dialog causes that organization to become highlighted on the screen. Double clicking or selecting OK causes the release dialog to be dismissed and the organization to remain highlighted. Selecting Cancel causes the organization to become unhighlighted.

Status Menu: Use this menu to display current strength, objective, and victory condition information.

Select **Scenario Information** to display information on the scenario, including its title, historical background, the ground conditions, visibility and the scenario's designer. Some information in this dialog is not shown in Play by E-mail games, or if you are the *Caller* in a "modern" game.

Select **Strength** to see the number and types of units currently available to each side. The units listed on the left side of the Strength Dialog are the total number of (full or partial-strength) *platoons* of that unit type *currently* available. The *right* side of this dialog lists the number of *Strength Points* (not the number of platoons) of that type of unit eliminated thus far. The *Strength* of the opposing side is not available if Fog of War is enabled (though the enemy's losses are shown).

Select **Objectives** to see the number, value and hex location of each Objective. Clicking on an entry line in the dialog box will put the Hot Spot in (and scroll the map to) that hex.

Select **Available Air Support** to view a list of the Air Attacks still available, if any (if Fog of War is on, you can only view the Air Attacks for your side).

Select **Victory** to see the current level of victory and related items.

Display Menu: Use this menu to control how information is displayed on the map.

Select **Units Off** to toggle (off or on) the on-map display of all units and markers. This option is provided to temporarily hide the unit and marker icons so that you can see the underlying map terrain better.

Select **Unit Bases** to toggle (off or on) distinctive bases for all 3D unit icons on any 3D map view. Note that each nationality has different-styled 3D bases displaying a derivation of that country's nationality symbol.

Select **Specials on Top** to control the on-map display of fortifications (improved positions, mines, blocks) and wrecks on the 2D maps. When this command has a check mark next to it, all these markers appear above all other units in their hex.

Select **Objectives** to toggle (off or on) the display of Objectives on the map. When this is enabled, each Objective hex is denoted by an objective marker displaying the primary color of the side that currently controls it (Exception: Exit Objective hex).

Select **Locations...** to help you find a named location on the map. When you select one of those listed, the map will scroll to that hex.

Select **Visible Hexes** to toggle (off or on) a shade over all hexes which are *not* in the LOS of the current Hot Spotted hex.

Select **Reachable Hexes** to graphically illustrate all the hexes that the currently-selected unit can reach in the current turn. This takes into account the number of Action Points it has to spend (and considers whether or not the unit is Saving AP's for Firing or Unloading). All hexes it cannot reach are shaded.

Select **Command Range** when a HQ unit is selected to see the Command Range for

that HQ.

Select **Find Org...** to see which units belong to which organizations. When you select an organization name in the Organization Dialog, each of that organization's component units becomes highlighted on the map. If Fog of War is in effect, only the organizations for the side currently having its turn will be highlighted. An organization name printed in light gray indicates that none of its units are currently on the map.

Select **Jump Map...** to display a miniature of the map. When you select any spot in the miniature version, the game map will automatically scroll to the corresponding spot.

Select **Hex Contours** to toggle (off or on) a brown "contour line" along all hexsides where an elevation change occurs.

Select **Opaque Infobox** to toggle (off or on) an opaque background color behind the Info Box.

Select **On-Map Thermometers** to toggle (off or on) small "thermometers" on a 3D map display that graphically illustrate each unit's current state of Morale, remaining Action Points or current Strength Points.

Select **Range** to toggle (off or on) a display feature that illustrates the currently-selected unit's hard (shown in red) or soft (shown in blue) attack limits. Note: If the hard and soft attack limits of the unit are same only a red line is shown.

Select **Highlight** to get a sub-menu of the following options:

Spotted Units toggles (off or on) a highlight around all units that have a LOS to (and thus are in the LOS of) at least one *known* enemy unit.

Fired/Fought Units toggles (off or on) a highlight around all units that have either fired at an enemy unit or fought in an assault during the current turn.

Moved Units toggles (off or on) a highlight around all units that have expended AP to enter a new hex during the current turn (exception: unless assaulting).

Disrupted Units toggles (off or on) a highlight around all units that are Disrupted.

Units/HQs Out of Supply toggles (off or on) a highlight around all units low on ammunition due to failing their supply check. Note that each HQ that moved during the previous turn is automatically considered "Out of Supply" during the next turn.

Indirect Fire Units toggles (off or on) a highlight around all units capable of firing indirectly.

Anti-Aircraft Units toggles (off or on) a highlight around all units capable of conducting fire vs. aircraft, i.e., Anti-Aircraft Fire.

Organization toggles (off or on) a highlight around all units that are part of the same organization as the selected unit, or are subordinate to the selected Leader or HQ.

Mine-Clearing Units toggles (off or on) a highlight around any unit capable of clearing mined hexes. Note that Mine-Clearing Units are also referred to as engineers in this manual.

Leaders toggles (off or on) a highlight around all leaders (commanders).

Headquarters toggles (off or on) a highlight around all HQ units.

Fixed Units toggles (off or on) a highlight around all Fixed units.

Note: The menu options beginning with Spotted Units and ending with Fixed Units are mutually exclusive; i.e., selecting any one of them will toggle-off any of the others that had been previously selected.

Select **2D Normal View** to change the map to its 2D version.

Select **2D Zoom-Out View** to change the map to a smaller, low resolution 2D version that enables more of it to be seen.

Select **3D Normal View** to change the map to its full-size 3D Battlevue™ mode.

Select **3D Zoom-Out View** to change the map to Battlevue™ mode but with the hexes at half their normal size.

Select **3D Extreme Zoom-Out View** to change the map to Battlevue™ mode but with the hexes at one-fourth their normal size.

Select **Rotate Map** to rotate the map, and all units and markers on it, 180°.

A/I Menu: Use this menu to control the “Artificial Intelligence” (A/I) capabilities of the of the currently in-progress non-CG scenario.

Select **[Manual]** (i.e., no A/I) for a side if you want to make all the decisions for that side, including conducting all moves and attacks for it. This is the default mode for both sides.

Select **[Computer]** for a side if you want the program to handle all the decisions and actions for that side. This will show you the position of all enemy units, even those out of “line of sight”.

Select **[Computer with Fog-of-War]** for a side if you want the program to handle all the decisions and actions, *and* have Fog of War in effect, for that side. This is the recommended, and most popular, method of play.

Select **Activate A/I** to restart the A/I after you have canceled it.

Select **Set Advantage** to balance play between two players of unequal skill or to balance A/I play. Advantage values can range from 0 to 100 for either side. Depending on the value, the side with the advantage will inflict higher than normal combat losses on the other side, and suffer lower than normal combat losses themselves. Advantage must be set *before* play begins in E-Mail or Modem Play games. Otherwise, the Advantage can be adjusted at any time during the game.

Special Menu: This menu provides special options necessary to play a Multi-Player scenario and to record a game in progress.

Select **Record Battle** to toggle (on or off) the option that allows you to save a record of the non “Special-mode” (including non-CG) game you are currently playing. **Note:** You must turn “off” (uncheck) a current recording in order to be able to view it (by selecting “Replay” from the File pop-down menu). The extension *.btr* is used to denote a recorded battle file

Select **Restart Replay** to restart the replay of a previously halted recorded battle file.

Select **Communication Dialog** in a modem game to display the “chat window” if you had closed it previously.

Select **Set Network Play Timer** during a live multi-player game. Using this, the Host (only) can input a time, in minutes, that will be used by the program to automatically end each turn. This time can be reset at any time, but only by the Host. If the time is reset, a message is displayed to all other players of the new time that has been set.

Select **Multi-Player Dialog** during a multi-player game in order for the the team captain

to assign his side's organizations to players on his side. This can also be used by the other players to view what units have been allotted to whom.

Select **Scroll to View Enemy Action** during a multi-player game for the computer to scroll the map to display visible enemy actions. This is “off” by default to prevent unwanted scrolling. This option has no effect except during multi-player games.

Options Menu: Use this menu to set the default for certain options associated with the main program. A check mark next to a command in this menu means that it is “on.” The settings of this menu are always “remembered” by the program.

Select **Prompt For Scenario** if you want to be prompted for a new scenario whenever you enter the game directly via a desktop shortcut for the DGF.EXE executable (instead of the “normal” method of launching a new scenario from the “Scenarios” screen).

Select **Beep on Error** to toggle (off or on) the option that causes a beep when you make an error.

Select **Hide 3D Hot Spot** to toggle (off or on) the option that causes the hexagonal Hot Spot marker to be hidden on the “3D” maps.

Select **Blink Hot Spot** to toggle (off or on) the option that causes the Hot Spot to blink. Note that the Hot Spot only blinks on the 2D maps.

Select **Smooth Scroll** to toggle (off or on) the option that causes the map to scroll incrementally to a new Hot Spot. When this command has no check mark next to it, the map redraws directly at the new Hot Spot hex without scrolling through the intervening hexes.

Select **Hex Outlines** to hide or display the map's hex outlines. When the hex outlines are visible, this command has a check mark next to it.

Select **Sound Effects** to toggle (off or on) the playing of firing/moving sound effects.

Select **Background Music** to toggle (off or on) background music.

Select **Background Sound** to toggle (off or on) the playing of “ambient” background battle sounds.

Select **Graphical Unit Icons** to toggle the display of unit icons between graphical and military-type schematic versions.

Select **Auto Save** to have the program save the game automatically at the end of each turn [Exception: it will not save a phase that was conducted under computer-controlled A/I (with or without Fog of War)].

Select **Auto Save AP's for Firing** to have *all* of the combat units of the phasing side automatically save enough AP to always be able to conduct at least one fire-attack after AP are expended for other purposes.

Select **Details** to display a sub-menu that allows you to specify the level of details you wish to see in the combat reports.

Select **Fast Computer Player** to have a computer-controlled side perform its movement at a significantly increased speed when in any 3D Battlevue™ mode.

Select **Fast Human Player** to have the 3D icons animate at an increased speed.

Select **Ask Before Advancing Turn** to have the program confirm that you really want to end a turn after you have indicated that you have finished your turn. With this enabled, you cannot end your turn by mistakenly clicking on the “Next Turn” Tool Bar button.

Select **Use Special Icons** in order for the program to use special 3D icons such as win-

ter or late-war camouflage. In order for the special icons to appear (if this option is not already in effect), you must select this option and restart the game.

Select **Initial View** to define the initial view of the map when the main program is started. The views may be set to any of the standard views, or to default to the last one used while playing the game.

Select **Optional Rules** to display a menu of game options that are in effect for the current scenario. These rules must be set at the start of a scenario and cannot be changed during game play.

Help Menu: Use this menu to get information about how to use the *Campaign Series* program.

Select **General Help (F1)** to open the General Help file which provides instant, on-line access for playing the game.

Select **Unit Handbook (F2)** to display additional information about the currently-selected unit. Such information cannot be accessed about enemy units if playing with Fog of War.

Select **Parameter Data (F3)** to find miscellaneous information on the data used internally in the game (such as the various combat tables, the height of obstacles, and defensive modifiers of the various terrain and fortification types, etc.).

Select **Unit Data (F4)** to display miscellaneous data about the units in the game; i.e., strength points, platoon VP value, Assault Value, Defense Strength, Fire Cost, loading & unloading costs, availability dates.

Select **Weapon Data (F5)** to display a list of the units' effective ranges vs. hard and soft targets, and their attack strengths at those ranges. The upper line shows the range and attack strength vs. hard targets, and the lower line shows the range and attack strength vs. soft targets.

Select **About Campaign Series** to display a dialog containing version number and copyright information about the game.

Map Magnification

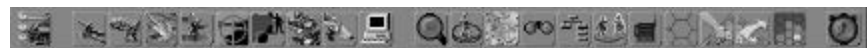
To change the view of the battlefield:



Use the magnifying glass icon on the Tool Bar (near the bottom of the screen) to zoom in; if you hold down the **Alt** key while clicking on the magnifying glass you will zoom out. You can also use the keyboard numbers **1, 2, 3, 4** and **5** to quickly change the map view (**1** is 3D Normal View, **2** is 3D Zoom-Out View, **3** is 3D Extreme Zoom-Out View, **4** is 2D Normal View, and **5** is 2D Zoom-Out View). You can also change the map view by selecting that map view's name from the Display pop-down menu.

If you wish the game to always start with a particular view, you can set this option in the Menu Bar, under Options. Allow a moment or two for the program to "load" the necessary terrain files after clicking a new "view mode".

The Tool Bar



The Tool Bar, along the bottom of the screen, provides you with an easy to use way to

play the game and maneuver your units for combat and movement. **Note:** For all Tool Bar buttons to appear your screen resolution must be 800x600 or higher.

Using the Tool Bar, you can:



Toggle between "Move" and "Fire" mode (also possible with **Ctrl** key)



Display the Artillery Dialog



Load/Unload units into/from an eligible transport unit



Have a unit "Dig In" to attempt to create an Improved Position in its hex



Have an eligible unit use Double Time movement.



Save Action Points for Firing



Save Action Points for Unloading units



Resolve assault



Call for an Air Attack in the currently Hot-Spotted hex



Activate or deactivate the A/I



Zoom in on the Map for a closer view of the action (or zoom out by holding the **Alt** key)



Toggle on/off the bases for the units (3D Battleview™ only)



Display the Jump Map



Highlights all hexes visible from Hot-Spotted hex



Highlight the Organization for a unit. To highlight the *next higher* organization, hold down the **Ctrl** key while pressing this button.



Cycle to the next unit



Display the Command Range of the currently selected HQ or CP.



Display the hard & soft attack limits (i.e., ranges) of the currently selected unit.



Open the Arrived (Reinforcements) dialog.



Remove the selected unit from the map (must be in an edge hex).



Show the locations the selected unit is able to reach.



Advance to the next turn

The Status Bar

Located beneath the Tool Bar, the Status Bar displays the nationality symbol(s) of the current player, a “thermometer” graphic for the current turn compared to the total number of turns in the scenario, an indicator displaying how many “smoke” artillery missions remain for the phasing side.



In addition to the Tool Bar, there are numerous Hot Keys that will ease your game play. For a complete list of the various Hot Keys and their functions.

Viewing the Map

You can scroll around the map by using the mouse to move the cursor to the edge of the screen. You can also use the arrow Hot Keys to scroll the map. The map can be viewed in six viewing modes.

3D Normal View. The ultimate map view is the *3D Normal View* mode, which is displayed by pressing the **1** key on your keyboard. This presents the Battlevue™—a high-resolution map in 3D-type isometric perspective, presenting much more detail on the screen. In this view, units are shown as “miniatures” with individual positions within their hex.

3D Zoom-Out View. The *3D Zoom-Out View* displays the Battlevue™ map at half of its normal size, thus allowing twice as much of it to be seen at a time. This view can be seen by pressing the **2** key on your keyboard.

3D Extreme Zoom-Out View. The *3D ExtremeZoom-Out View* displays the Battlevue™ map at fourth of its original size, thus allowing you to vie more of the 3D map at once. This view can be seen by pressing the **3** key on your keyboard.

2D Normal View. The next scale is called the *2D Normal View*, and is displayed by pressing the **4** key on your keyboard. This presents the terrain and units in more detail than the 2D Zoom-Out map while showing a larger area than the 3D maps. You can choose to display units on the 2D Normal View map with either graphical icons or military symbols

2D Zoom-Out View. The smallest *playable* size is the *2D Zoom-Out View* map, which is displayed by pressing the **5** key on your keyboard. Units on this map cannot be distinguished from each other as easily as on the other maps, but their positions relative to the opponent's units are readily apparent over a wider area.

Jump Map. The sixth map view is the *Jump Map*. The jump map will give an overall view of the *entire* map. It is an easy way to examine your whole battle situation. On the Jump Map Israeli units are shown by blue dots and the Arab Nation's units by red dots. You can click on any portion of the jump map and the main map will automatically scroll to that part of the map. This can be seen by clicking on the jump map icon on the Tool Bar.

Map Labels

Hold down the **SHIFT** key to see the labels for the map's features, a compass rosette, and a label displaying the distance and direction to the closest major population center.

Selecting a Unit

To give orders to a unit (that is, to have it fire, move or perform any other action), or to access additional information on it, that unit must first be *selected*.

To select a unit displayed on a 3D map view, left-click on its 3D unit icon. A selected 3D icon has a green outline, and the nameplate of its Info Box is brighter than an unselected unit's nameplate. On both the 2D and 3D maps, a unit can also be selected by left-clicking once on its unit “Info Box” (i.e., the see-through data box that appears in the upper right hand corner of the screen when you click on a unit on the map). Right-clicking on the Info Box will cycle through the units in the hex, allowing you to view/select them individually.

To select *all* the units in a hex, simply double-left-click on that hex.

To display the Info Boxes of all units in the hex, press the **U** key.

You can also select a unit if its Info Box is displayed by left-clicking once on that unit's Info Box (a selected unit's Info Box will display a brighter nameplate along the top of the box). **Note:** Left-clicking once on an *already-selected* Info Box will *deselect* the unit.

3D “Roam Mode”

Whenever the display features a “3D” map, “Roam Mode” is enabled. In Roam Mode 3D unit icons on the map are automatically highlighted when your cursor passes over them. A yellow highlight around a 3D icon indicates a friendly unit, a red highlight indicates an enemy unit. The *selected* unit is always shown with a green highlight (whether friendly or enemy). When you “roam” the cursor over a 3D icon, its Info Box will be displayed. Such info remains displayed as long as your cursor is positioned over that 3D icon. As soon as your cursor “roams” off the 3D icon, the Info Box reverts back to displaying the *selected* unit (or, if no unit is currently selected, no Info Box is displayed).

The Info Box

The Info Box is displayed in the upper right-hand corner when a unit is selected. Note that you can reposition the Info Box by the “drag and drop” method if its current location is inconvenient. Normally, the Info Box will display information about the select-

ed unit. However, if playing on a 3D map, the Info Box will temporarily display information on any unit (enemy or friendly) that your on-map cursor “roams” over. The amount of information displayed will vary, depending on the current Fog of War option chosen; i.e., no Fog of War, normal Fog of War, or Extreme Fog of War.

If more than one unit is in the same hex, you can cycle through and view the Info Box of each unit in that hex by *right-clicking* on the Info Box. Note that a left-click on the displayed Info Box will *select* that unit (note how the nameplate of the unit highlights), or unselect the unit if already selected (the nameplate will become unhighlighted). If a unit is carrying a passenger (indicated by a large, full-color helmet icon in the lower-right corner of the Info Box) a right click will display the unit being carried by that transport unit.

The center section of the Info Box displays the unit's 3D icon. Other important data is arranged in a circular fashion around the icon. Starting at “12 o'clock” and proceeding clockwise, the data lists:

Strength (Command): The unit's current Strength Point (SP) value. Each SP of an infantry-type platoon represents one “half squad”. Each SP of an MG-, mortar- or gun-type unit represents one “team” (if MG) or gun (for “tube” weapons such as mortars or artillery). Each SP of a vehicular platoon represents one vehicle. An SP value shown in yellow indicates that the selected unit is not at full strength. If the unit is a commander, this is his “*Command Rating*”, which is added to the Attack Strength of a unit under his command, with which he is stacked, if that commander possesses at least as many Action Points (AP) as the Fire Cost of the attacking unit.

Action: The number of Action Points (AP) the unit has remaining (unused). All units start each “friendly” turn with 100 AP; each action executed during a turn (and each terrain entered) will cost a given amount of AP. Note that, due to differing movement rates, different unit types will expend different amounts of AP for entering similar terrain. To see how many AP it costs to enter each terrain type, select that unit and press the **F2** key to access the Unit Handbook. The AP expended to enter a hex are doubled if the unit is Disrupted (to a maximum of 65 AP).

Assault: That unit's basic attack value when it assaults.

Defense: That unit's basic defensive value when it is being fired on or assaulted. A unit's Defense Strength shown in red indicates that it is a “hard” (i.e., armored) target.

Fire Cost: How many AP that unit must expend to shoot.

Morale (Leadership): The unit's current morale (the number it must roll equal to or less than on a 10-sided die when doing a morale check). In order for a unit to become undisrupted or to regain a lost morale level, it must also roll equal to or less than this number. A morale level displayed in yellow indicates the unit is not currently at full (nominal) morale; this can be as a result of combat, or the unit might have begun the scenario at a reduced morale level. If the unit is a commander, this number is instead his “*Leadership Rating*”, which modifies the morale of the unit(s) under his command that he is stacked with. If his morale is greater than that unit's, his morale is used for it. If his morale equals or is less than that unit's, its morale is raised by one. A unit's morale appears in red if it's being modified by a commander.

A unit's morale can be affected by the terrain it occupies. “Beneficial” terrain will raise a unit's morale so that it will be less likely to fail a morale check and thus less likely to retreat, whereas terrain that provides no cover (such as Clear and Water) have a detrimental

morale modification. A list of these effects can be found by pressing the **F3** key to view the Parameter Data.



Info Box Thermometer: Along the bottom of the Info Box is a thermometer that displays one of three things (as a ratio of its current amount to its “full” amount):

- The unit's current Action Points (*red* thermometer bar); the white vertical line marks the lowest point the thermometer must stay “above” for the unit to have enough AP to fire.
- The unit's current Morale (*blue* thermometer bar).
- The unit's current Strength Points (*green* thermometer bar).



A single left-click on the Morale, Strength or Action Points box in an Info Box will change the Info Box thermometer to display that variable.

Icons may appear along the left-hand side of the Info Box. Those at the top reflect unit status (i.e., what the unit is currently doing or what effects it is subject to); those at the bottom show unit capabilities (i.e., what the unit is capable of doing).



Disrupted Status.



Fatigued Status.



Fixed Status.



Unit is in LOS of (i.e., spotted by) an enemy *combat* unit.



The only enemy unit with LOS to unit is a leader/unarmed-transport unit.



Unit is currently Low on Ammo (or unavailable if HQ or artillery).



Unit is currently marked to “Save APs for Firing”.



Unit is currently marked to “Save APs for Unloading”.



Unit has spent APs to fire this turn.



Unit has spent APs to move this turn.



Vehicle eligible to travel across water (amphibious).



Unit is capable of conducting Anti-Aircraft attacks.



Unit is capable of conducting Indirect Fire.



Unit is capable of carrying infantry.



Unit is capable of towing (or carrying) guns.



Unit is capable of Double Time Movement (note that this also denotes an artillery type unit that is capable of movement without transport).

-  Unit is eligible to dig in (or is currently Digging In).
-  Mine-Clearing (i.e., engineer) Unit capable of reducing Minefields or destroying Blocks and High Walls
-  Unit is capable of firing Smoke.
-  The heaviest type of bridge the unit is *not* allowed to cross.

On-Map Thermometers

When using any of the 3D map displays, you can toggle the “On-Map Thermometers” for each 3D icon on or off by pressing the **T** hot key. Depending on what you prefer, thermometers can be displayed that graphically depict the Action Points a unit has remaining, or its current number of Strength Points, or its current Morale. *Note: The on-map thermometers are color-coded to the color outline of the Info Box coinciding to that value; i.e., red for Action Points; green for Strength Points; blue for Morale.* A single left-click on the Morale, Strength or Action Point box in the Info Box will change the displayed on-map thermometers to the one measuring that variable. Turning the on-map thermometers on can also be a convenient way to locate units on a 3D map display.

The Unit List

To display the Unit List along the right side of your screen, press the **U** hot key. You can select and unselect one or more units easily with the Unit List “on” by left-clicking once on the desired Info Box(es) in the Unit List. Additional information regarding play can be found in the Unit List. If a hex is selected, Info Boxes for all units in that hex are displayed in the Unit List, one above the other. You can use the cursor to “drag” the displayed Info Boxes up or down within the Unit List (this can be necessary if three or more Info Boxes are displayed in the Unit List). To close the Unit List, press the **U** key again.

To the left is the *Campaign Series* interface with the Unit List being displayed.

Right-click on a unit displaying a full-color helmet icon to see the Unit Box of the passenger being transported.

Below the lowest Info Box displayed in the Unit List the following additional game information is presented:

Terrain: Lists the predominant type of terrain in the hex and the base elevation in meters.

Objective: If the selected hex is an objective hex, its objective value is listed.

Wrecks: The current number of wreck SP in the selected hex.

Concealment: The concealment value of the terrain in the selected hex. The higher the value the better its concealment.

Visibility: The maximum number of hexes a unit can “see” in the scenario.

Air Power: The total number of Air Attacks remaining per side (Israeli #/Arab Nations #).*

Smoke: The number of Smoke missions available to eligible artillery (Israeli #/Arab Nations #).*

Ammo: The supply (ammo) level per side (Israeli #/Arab Nations #).*

* If Fog of War is in effect, the numbers for the opposing side are shown as a “?”.

The Unit Handbook

Additional information about a unit can be accessed by selecting that unit and pressing the **F2** key. This will display useful information about the unit, such as its AP terrain costs, its per-SP victory-point value, its “organizational tree” in the current scenario, some historical text on the unit type, and a sample illustration. **Note:** *The terrain costs listed for a unit in the Unit Handbook are the terrain costs associated for the ground conditions (normal, soft, mud or snow) of the scenario currently open.* Clicking the “R” (“Range Display”) button will bring up a graph illustrating the range of its weaponry (if applicable); see Range Display, below. Also shown in the Unit Handbook is the “organizational tree” of the selected unit (providing a listing that unit’s company, battalion, regiment, etc.) To close the range display, left-click on the graph, or press the **Esc** or **Enter** key. Use the same keys to close the Unit Handbook, or left-click on the **X** (“Close”) button located in the lower right-hand corner of the Unit Handbook display.

Range Display: If you click on the “Range Display” (“R”) button in the lower right portion of a selected unit’s Unit Handbook display, a “Range Dialog” graph is displayed. This Range Dialog illustrates the “Hard target” Attack Strengths (shown by the red line) and the “Soft target” Attack Strengths (shown by the blue line) of the unit currently being investigated in the Unit Handbook. The number in the upper left corner of this dialog (along the “Y” axis) is the unit’s *maximum attack factor* for whichever Attack Strength (hard or soft) has the greater value; the number in the lower right corner (along the “X” axis) is the unit’s *maximum range* for whichever Attack Strength has the greater range. The Range Dialog graph in the Unit Handbook can be closed by left-clicking on it, or by pressing the **Esc** or **Enter** key.

Organizations



Each unit in *Campaign Series* is part of an organization. The individual units are platoons. The platoons are part of companies, the companies are part of battalions, battalions are part of regiments, and regiments are parts of divisions. You can use the Highlight Organization Tool Bar button to highlight the selected unit’s organization. Additionally, you can also highlight the “next higher” organization in that organizational “tree” by holding down the **Ctrl** key while clicking on this Tool Bar button. Knowing the other units (especially Commander and HQs) belonging to a unit’s organization is important for being effective in combat.

The **Find Org...** item from the **Display** pop-down menu is a convenient way to find what organization is present on the map, and its location. Click on organizations listed in this dialog and the units of that organization are highlighted on the map. You may find it convenient to be in the “2D Zoom-Out View” mode when doing this.

Scenario Information

While playing a scenario you can press the **I** hot key to display the Scenario Information. This display lists the scenario’s title and author, the ground and weather conditions in effect, and the historical copy. *Note: Use your keyboard’s “Page Up” and “Page Down” keys to view more of the historical copy.* The ground conditions affect the number of Action Points a unit must expend to enter a given terrain type; the weather affects the visibility conditions.

Important Note: The historical description for each *Campaign Series* scenario may include a recommendation of which side you should play if playing against the computer A/I. Playing as the *other* side will result in an unbalanced game.

Terrain Information

Each game map is composed of a variety of terrain types that affect combat, movement and Line of Sight (LOS) in differing ways. The terrain type in the “hot spotted” hex is displayed in the Unit List (press the **U** hot key to turn the Unit List off and on). To get more detailed information on each terrain type select “Parameter Data (F3)” from the Help pop-down menu (or press the **F3** hot key). In this display information can be found describing the combat modifier of each terrain type, the effect on morale that certain terrain types have, and the height (in meters) of each terrain type.

The “Hot Spot”

To “hot spot” a hex simply left-click one time in that hex. **Note:** *To display a red outline around the hot-spotted hex when playing on a 3D map, uncheck “Hide 3D Hot Spot” in the Options pop-down menu; if playing on a 2D map view, the hot-spotted hex is always highlighted by a red square.*

The Command Report

At the beginning of each turn the program generates a “Command Report” if any of the following situations apply:

Arrival of Reinforcements - An announcement is made if any reinforcements have arrived.

Release of Fixed Units - An announcement of the release of any organization (or even a single unit) that had previously been “fixed”.

Improved Position Construction - An announcement is made of the construction (and hex-location) of a just-completed Improved Position. Engineer infantry have an improved chance of creating Improved Positions.

Clearing of Minefield or Blocked Hex - An announcement is made if engineer units have successfully cleared any mined or blocked hexes.

Number of Air Attacks - Lists the total number of Air Attacks available for that side during the scenario.

Number of HQs Unable to Provide Supply - Lists the number of HQs unable to provide supply during the current turn.

Number of Units Low on Ammo - A list of the number of units currently suffering from low supply.

Undisrupted or Recovered Morale - Lists the number of units that became undisrupted and/or recovered morale (compared to the total that were disrupted or had lost one or more morale levels) and the units’ location.

Isolated - Lists the hexes where isolated units are located.

Combat and Movement

Combat and Movement all take place in one turn. Each unit is allocated 100 Action Points at the start of its turn, displayed in its Info Box. Every hex entered and every shot

fired consumes a certain amount of AP from the selected unit’s current total of APs. Once a unit has expended all of its AP (or, more commonly, has so few AP remaining that it is unable to perform any action) it will have to wait until its next turn begins to have its AP returned to 100 (and thus be able to perform more actions). Note that you do *not* have to finish the movement (or AP expenditure) of one unit before beginning the movement of another unit; you can always “come back” to any unit at a later time during your turn to move or fire it, as long as it has enough AP remaining to perform the desired action.

During each “friendly” turn, a unit can usually both move *and* fire. Some units can fire as many as three times per turn! Each armed (combat) unit has a “Fire Cost” (the amount of AP it costs that unit to fire). How you choose to have your units expend their AP, and in what “combination”, will largely determine how well you do in a scenario. There are many decisions to make each time you select one of your “friendly” units during your turn. For instance, should you expend all of a unit’s AP in moving? Should it fire once and then move? Should it move, and then fire? Should it fire once, then be marked to “Save APs for Firing” (so that it might conduct opportunity fire during your opponent’s turn)? The options are plentiful—and the situation is fluid. Using your units’ AP to the fullest is an important part of victory.

Move/Fire Mode



There are two “modes” in the game, “Move” and “Fire”. By default, a turn begins in Move Mode. To toggle between the two modes press the “Move/Fire Mode” Tool Bar button (the second button from the left on the Tool Bar). When in Move Mode this button displays three green arrows and part of a tank silhouette; when depressed the button is in Fire Mode and displays a bright red “crosshairs” over a vehicle icon. Additionally, pressing and holding down the **Ctrl** key toggles the mode from “Fire” to “Move” or vice-versa. Note that your on-map cursor changes at the same time. You must be in Move Mode to move or assault with a unit; you must be in Fire Mode to give a unit Direct or Indirect Fire orders. When in “Fire Mode” your on-map cursor is a circled “plus sign” (similar to the crosshairs of a gunsight).

Moving a Unit



Each turn starts in the Move mode by default. First, be sure you are in “Move Mode”. The second button from the left in the Tool Bar along the bottom of the screen is the “mode” button. In “Move Mode” the button is “undepressed” and shows three green arrows and a partial silhouette of a tank. (If it’s “depressed” and displays a large red “crosshairs”, you’re in “Fire Mode”.) Next, select the unit you want to move, then *right-click* in any hex to move the unit toward that hex. (**Note:** *you can move units only of the side you control—not enemy units.*) Alternatively, you can select the unit, then “drag and drop” it in the direction you wish it to move. When in “Move Mode” your on-map cursor is a thin “plus sign” (+).



Save AP’s for Firing: When moving a unit (especially if expecting to move into “contact” with the enemy) you might want to reserve enough APs so that the unit can fire at least once (either at the end of its move or as Opportunity Fire during the next enemy turn). To do this, press the “Save AP’s for Firing” Tool Bar button before expending many AP for other activities. When a unit has been selected to Save AP’s for Firing, a small full-color “bullet” icon will appear near the top of the icon bar along the left side of the Info Box. To cancel this, simply select the unit and toggle this off by pressing

the same Tool Bar button. **Note:** you can have this feature automatically in effect for all combat units of your side by selecting “Auto Save AP’s for Firing” from the Options pop-down menu; however, this will not take effect until a turn begins with this option selected.



Save AP’s for Unloading: When moving a loaded transport unit (especially if getting near the enemy) you might want to reserve enough APs so that the transport’s passenger can unload at the end of the move. To do this, press the “Save AP’s for Unloading” Tool Bar button before expending many AP for other activities. When a unit has been selected to Save AP’s for Unloading, a small full-color “wheel” icon will appear near the top of the icon bar along the left side of the Info Box. To cancel this, simply select the carrying unit and toggle this off by pressing the same Tool Bar button.

Roads

The maps in *Campaign Series* feature several different types of “roads”, each of which has a different movement cost (paid in AP) to enter a hex along that road. The road types are:

Paved: These are well-surfaced (improved) macadam roads, and provide a good surface in all weather conditions.

Unpaved: Packed-dirt surface. If the terrain is muddy these are best avoided.

Paths: These represent narrow cart and foot paths, too narrow for most wheeled vehicles to benefit from.

Railroad: These represent railroad tracks, sometimes found elevated above the surrounding terrain. A very bumpy ride for vehicles.

Road Movement: Two or more (non-leader) units of ≥ 12 SP stacked in a hex negate any road in that hex. (For purposes of this, “road” includes each of the four types of “roads” listed above.) In other words, a unit travelling along a road can enter a hex using the *road* movement rate as long as its SP total, when added to the SP total of the units already in the hex, does not exceed 12. Passengers do not count, but wrecks do. Hence, if you try to move three units whose combined SP is > 12 simultaneously (as a “stack”) along a road, they each pay the non-road cost to enter that hex. Likewise, if two units with a combined SP of 12 already occupy a road hex, the non-road cost will be charged if you attempt to move any other unit into it.

Bridges: There are three types of *hexside* bridges in the game: Light, Medium and Heavy. In addition to these three *hexside* bridges, a water hex can be spanned by a “full hex” bridge, which is always considered “heavy” for movement purposes. The bridge icon (with a small red “x” on it) that appears in the icon bar along the left side of the Info Box is the “heaviest” type of bridge that unit is *not* allowed to use, whereas the bridge type listed for that unit on its Unit Handbook page is the lightest type of bridge the unit is allowed to use.

Minimum Movement

Regardless of the AP cost of a hex, a unit can always move one hex during its turn. The most AP cost of any one hex entered is 65 AP, regardless of the combination of *hexside* or *in-hex* terrain. Thus, as long as a unit has 65 AP remaining, it can enter an adjacent hex (*Exception: if entering a hex (and/or crossing a hexside) that unit can not enter/cross; e.g., any unit crossing a cliff hexside, or a vehicle attempting to enter a non-frozen swamp or marsh*).

NOTE: The program might tell you that a unit does not have the required AP to enter a hex (even though that unit has 100 AP remaining) if that hex entry cost is 65 AP and the unit has been marked to Save AP’s for Firing (as denoted by a “full color” bullet icon appearing in the upper part of the icon bar along the left side of its Info Box). This is most common in units which must pay > 35 AP to fire when such a unit is attempting to enter a hex which costs 65 AP. To move such a unit, select the unit and toggle *off* the “Save AP’s for Firing” feature. The unit will then be allowed to expend the necessary AP to move (as it is now no longer saving enough AP to fire). See also “Auto Save AP’s for Firing”.

Disrupted Unit Movement

A disrupted unit pays *double* the normal AP cost to enter a hex, to a maximum of 65 AP. A non-passenger disrupted unit cannot enter a hex if, in doing so, it would be *lessening* the distance to the *closest* enemy unit currently known to any unit of the friendly side.

If a disrupted unit *begins* its turn *adjacent* to an enemy unit, it may continue to move adjacent to that enemy unit (as it is not moving *closer* to that “closest” enemy unit).

Transporting Units

There are several different types of transport units available in *Campaign Series*, including wagons, horses, trucks, artillery tractors, halftracks, motorcycles, bicycles, landing craft, boats, rafts, Helicopter and even some types of tanks and assault guns.



Each potential transport unit displays a small icon along the lower left side of its Info Box that graphically displays a type of unit it is capable of transporting.

Any unit *currently carrying* a passenger of any type has a large, full-color helmet icon in the lower right portion of its Info Box. If eligible to carry a passenger but not currently carrying one, the helmet icon on “standard” (dedicated) transport units (trucks, halftracks, prime-movers, horses, motorcycles, bicycles, boats, and rafts) is shown as a yellow outline. This yellow helmet outline is not shown on “non-standard” transport, such as tanks and assault guns. Helicopter do not show an empty helmet but are still known transport units.

To see what is being carried by any unit displaying the full-color helmet icon, right-click on its Info Box. Right-clicking on the Info Box *again* will redisplay the transport unit or, if there are other units in the hex, will display the next unit in the hex. *Note that horses, motorcycles, bicycles, boats and rafts cannot move (or be used for spotting purposes) unless a passenger is currently loaded on that unit, whereas trucks, halftracks and artillery tractors (because each is considered to have an “inherent” driver) can move (or be used for spotting purposes) if not loaded.*



Loading: To load a unit onto any type of “empty” transport, the transport unit must be in the same hex as the unit you want to “load up”, and the transport unit must have at least as many SP as its potential passenger. Both must also have the requisite number of AP to load. *Select both units* (you can double-click on the hex if they are the only two units in the hex; otherwise see “Multi-Selecting” below), then click on the “load/unload” Tool Bar button (depicting a truck with infantry).



Unloading: To *unload* a currently-loaded transport unit (one displaying a full-color helmet icon in the lower right corner of the unit's Info Box), select the unit and click on the "load/unload" button. Note that it generally costs 25 AP to unload from most transport types, but only 10 AP to unload "riders" from tanks. To find out the Unloading Cost for each unit type that can be loaded, check the unit data in the Appendices of this manual (or press **F4** during the game), where the cost for a unit to load or unload is listed, with the exception being unloading riders (see Tank Riders; below) and unloading from bicycles, motorcycles, boats and rafts, which have their own Unloading Cost that applies instead of the cost listed for the passenger.

Multi-Selecting: To load a unit onto a transport in a hex that contains more than just those two units, you will probably find it easiest to select them by first opening the Unit List (press the **U** hot key) and then left-clicking on each of their Info Boxes. Alternatively, you can also select them by a careful combination of right- and left-clicking on the single Info Box. Each right-click will cycle to the next unit in the hex, and each left-click will select (or unselect) the displayed unit. *Note that a selected unit has the nameplate on its Info Box highlighted.*



Tank Riders: Medium and heavy tanks, as well as most assault guns and tank destroyers, have the ability to carry infantry "riders" but cannot tow guns. Tanks and other armored vehicles that are allowed to carry "riders" can transport double their amount of SP (e.g., a 3-SP tank platoon can carry a 6-SP infantry platoon, etc.). Such vehicles are designated by the presence of a "soldier with submachinegun" icon in the lower-left corner of their Info Box. Note that these types of vehicles cannot fire while loaded.



Towing: Certain vehicles (e.g., artillery tractors) can tow guns but cannot carry infantry. Such vehicles are designated by an "anti-tank gun" icon in the lower-left corner of their Info Box.



Reachable Hexes: Press the **H** hot key after selecting a unit to move to highlight all hexes which the selected unit can reach during the current movement phase. This display takes into account the number of APs the selected unit has remaining, and the effects of extra hexes reachable due to Double Time, and if the unit is marked to "Save APs for Firing" and/or "Save AP's for Unloading". The Reachable Hexes display updates automatically as the unit moves.

Reinforcements

Many scenarios have reinforcements that enter during play. To view the list of scheduled reinforcements, press the **S** hot key. **Note:** *if Fog of War is in effect, the Schedule Dialog will list only friendly reinforcements.* Each reinforcement group is listed on a separate line with the following information: turn of entry; percentage chance of entry (shown as "???" if the Extreme Fog of War optional rule is in effect); hex of entry; first unit of that group. Since most reinforcements contain more than one unit, you can double-left-click on any entry of the Scheduled dialog to display a window listing all units of that reinforcement group. Furthermore, if you left-click on a reinforcement group in the Schedule Dialog, the map will scroll to display the entry hex of that group.

Unless the arrival chance is 100%, the program will perform a "percentile" (1-100) die roll, beginning on the turn listed, and at the beginning of each friendly turn thereafter that the reinforcement group has still not arrived. A die roll equal to or less than that reinforcement group's printed entry chance results in that reinforcement group arriving. **Note:** *if the optional rule for Extreme Fog of War is on, the percent chance of arrival is always hidden.* If a sched-

uled reinforcement fails to enter on the designated turn, the roll is repeated at the same percentage chance on each following turn until that reinforcement group arrives.



Entering Reinforcements: If the Command Report mentions that "Reinforcements have arrived" you should press the "Arrived" tool bar button (or the **A** hot key) to display the "Arrived Dialog".

Arrived Dialog: Each group of reinforcements arriving on the current turn is listed on a separate line. Double-left-click on a listed group in order to have those units placed on the map. Once placed you can then select and move the units.

Temporary Overstacking: The program allows reinforcing units to be placed in their entry hex in excess of normal stacking limits.

Displacement: If a reinforcement group enters the map on a hex occupied by an enemy unit(s), the enemy unit(s) will be displaced into an adjacent hex (*Exception: air-landed reinforcement group; see below*).

Paradrops & Gliders

Units that enter play on parachutes or gliders will arrive as reinforcements and are subject to "scattering" and taking casualties depending on the terrain they land in or their proximity to enemy units. The amount of scatter for each glider/paradropped reinforcement group is preset by the scenario designer. In addition to scatter and terrain-induced casualties, units landing by parachute (only) always land with 0 AP, are also automatically disrupted, and affected by "low ammo" status to reflect the additional danger and wider dispersal normally experienced by a paradropped unit.

Paradrops Casualties: A unit parachuting into marsh, swamp or shallow water, or landing adjacent to one or more enemy units, takes a random SP loss ranging from 1 to the maximum SP of the affected unit. This loss is halved (fractions rounded down) if the unit drops into rough, forest, village, suburb, city, factory or special-building terrain. Note that such losses are *not* counted as losses in the scenario victory conditions for victory point purposes.

Glider Landings Casualties: A glider-borne unit landing in rough, swamp, orchard, forest, village, suburb, city, factory or special-building terrain, or if it lands adjacent to one or more enemy units, takes a random SP loss ranging from 1 to the maximum SP of the affected unit. This loss is halved (fractions rounded down) if the unit lands in marsh, vineyard, shallow water or wadi. Note that such losses are *not* counted as losses in the scenario victory conditions for victory point purposes. Units landing by glider land with 100 AP and are only Disrupted if they incurred casualties when landing.

Amphibious Units



Additionally, *amphibious* units (denoted by the symbol shown at left) are capable of movement in water and on land. Units carried aboard amphibious transport can disembark in shallow water hexes or on land. Helicopters are marked as amphibious so the program allows this unit to travel over deep water.

Organizational Movement



Campaign Series features two types of "Organizational Movement", whereby you can quickly and easily move all the as-yet-unmoved units of an organization. Both types of Organizational Movement require that the "Highlight Organization" Tool

Bar button is “on”, thus highlighting all the units that belong to the same organization as the currently selected unit.

Column Movement: Select a unit, press the “Highlight Organization” Tool Bar button, and then, while depressing the **Alt** key, *right-click* in a hex you wish the unit to move to, all of the units of that unit’s organization will move toward the selected hex. This type of movement is especially helpful when you have a number of units of the same organization in a “road column”; if so, pick the *lead* unit of the column to move. You can also “drag and drop” in lieu of right-clicking, if preferred.

Echelon Movement: Select a unit, press the “Highlight Organization” Tool Bar button, and then, while depressing the **Shift** key, *right-click* in a hex you wish the selected unit to move to, all of the units of that unit’s organization will move in the same general *direction and distance* (but *not* toward the same location) as the selected unit. You can also “drag and drop” in lieu of right-clicking, if preferred.



Double Time Movement and Fatigue: An infantry, cavalry, or wagon (exception: if transporting a gun incapable of moving on its own) unit can use Double Time movement if it is not *currently* marked with an “F” (fatigued) icon. A unit currently capable of using Double Time movement is also denoted by a “charging soldier” icon displayed in the icon bar on the left side of its Info Box (the “charging soldier” icon also denotes the light gun and mortar units that are capable of being manhandled; i.e., that can move for short distances without transport). From the moment that the unit is commanded to use Double Time, it pays only three-fourths of the *normal* AP cost to enter a hex (or cross a terrain hexside) during that turn. To conduct Double Time movement, select the unit, press the “Double Time” Tool Bar button, and move the unit. Once a unit has been flagged to Double Time, it cannot be undone.

Note: A cavalry unit does *not* have to Double Time on a turn in which it assaults (in fact, it would be better not to, so that the detrimental effects of Fatigue will not apply to the cavalry unit’s assault).



A unit that begins its friendly turn Fatigued (an “F” icon is displayed in the unit’s Info Box) cannot Double Time during that turn. The “F” icon is automatically removed at the start of any turn in which the unit did not Double Time in the *previous* turn.

A Fatigued unit that attacks (Direct Fire or Assault) has its Attack Strength halved (fractions rounded down, to a minimum of one). A Fatigued unit that defends in assault has its Defense Strength halved (fractions rounded down, to a minimum of one).



Fixed Units: Some scenarios feature units that (usually for historical purposes) have been “fixed” in place. A Fixed unit is denoted by a red circular icon displaying a white “F” at the top of the icon bar of the Info Box. Such a unit is unable to move until it is either attacked or “released” (if released, the Command Report will report this occurrence).

You can check the “Release Dialog” by selecting “Releases” from the “Reinforce” pop-down menu or by pressing the **F** hot key on your keyboard. The Release Dialog lists each organization or unit that is scheduled to be released during that scenario (if any).

Unless a release chance is 100%, the program will perform a “percentile” (1-100) die roll, beginning on the turn listed, and at the beginning of each friendly turn thereafter that the organization is still not released. A die roll equal to or less than that organization’s

printed release chance results in that organization being immediately released. **Note:** *If the Optional Rule for Extreme Fog of War is on the percent chance of release is hidden.*

Combat

There are five basic types of combat in *TalonSoft’s Campaign Series*: Direct Fire, Indirect Fire, Assault, Air Attacks and Minefields. Anti-Aircraft Fire is considered part of Direct Fire. Units capable of Direct Fire cannot attack using Indirect Fire. However, units capable of Indirect Fire can also attack using Direct Fire.

The basic way to attack an enemy unit (using Direct or Indirect Fire) is to:

- 1) Select your attacking unit by clicking on its 3D icon (if playing on a 3D map) or its Unit Box once (ensure that the game is in Fire Mode, not Move Mode).
- 2) Move your cursor over the target you wish to attack. A display showing the soft and hard attack factors will appear.
- 3) Right click on the unit you wish to attack.

There is no limit to how many times an individual unit can be attacked in a turn.

A unit can only attack if it has enough APs to commit to the attack. The number of APs each unit expends to conduct a Direct or Indirect Fire attack is listed as the Fire Cost in that unit’s Info Box.

Direct and Indirect Fire use a combination of the attacker’s range to the target plus its Strength to determine the actual effectiveness of the attack. Most units have range modifications to better reflect their real-life capabilities. Each Disrupted unit has its Attack Factor halved prior to any other modifications.

A unit that is a passenger cannot attack or be attacked *directly*. However, when its transport vehicle is attacked, damage may also apply to the passenger.

Note: *Passengers and Riders are extremely susceptible to damage while loaded—especially if their means of conveyance is a Soft Target type.*

Line of Sight

Line of Sight (LOS) and terrain also affect attacks. Direct Fire may not be initiated against a target that the attacker cannot see. Line of Sight can be blocked by terrain in a hex, elevation changes, weather (visibility), smoke, other units and a hex having six or more wrecks in it. The various ways LOS can be affected is discussed below.

Terrain: The predominant terrain in each hex can potentially block LOS, depending on the height of that terrain.

Elevation Changes: The elevation changes depicted by the maps will block LOS in a natural manner.

Weather (Visibility): Each scenario has a Weather condition associated with it that limits visibility anywhere from a minimum of 1 (one) hex (if conditions list “night”) to a maximum of 20 hexes (if conditions are “clear”). A scenario’s weather and visibility limits can be found by displaying the Scenario Information screen. Weather will not change during the course of a scenario. See the following chart for the list of possible weather conditions and the visibility limits associated with each.

Smoke: Smoke is an obstacle to LOS if it exists between the firer and its intended target. A unit in a Smoke hex can still fire, or be fired upon, but only at half Attack Strength. Smoke can be fired only by certain Indirect Fire units, and halves the non-

assault attack into or out of its hex.

StarShells: Starshells lighting the night sky allows units to have a greater line of Sight in the night scenarios.

Units: If a hex contains 13 or more strength points of *non-wreck* units it is considered to have enough units therein to sufficiently block LOS through that hex.

Wrecks: If a hex contains 6 or more strength points of *wrecks* it is considered to have enough wrecks therein to sufficiently block LOS *through* that hex. Less wrecks are required to block LOS than non-wrecks due to the inherent smoke of wrecks.

 **Unknown Unit:** When Fog of War is in effect, if the *only* friendly unit(s) that has LOS to an enemy unit is an *unarmed* unit such as a truck, wagons, prime mover or artillery tractor *and* that is *not* carrying a passenger, that enemy unit is displayed as an “Unknown Unit”. On a 2D view map an Unknown Unit is shown by a marker with a “?”; on a 3D view map a 3D icon in the form of a “?” is displayed.

Note: A transport that requires passengers in order to be able to move (such as a bicycle, motorcycle, boat, raft, or horse) cannot be used for spotting.

 **Visible Hexes:** To highlight the *hexes* that can be seen from a specific location (i.e., that are in the LOS of a certain hex), left-click once in that hex (thus “hot spotting” that hex), then press the Tool Bar button displaying the “binoculars” or the **V** hot key. All hexes not visible from the hot-spotted hex are shaded. Press the **V** hot key again to turn off the “visible hexes” feature. **Note:** Just because a friendly unit has LOS to a hex does not mean that any/all enemy units in that hex are automatically visible.

Direct Fire

The most common type of attack is probably Direct Fire. Direct Fire is performed only by units that have a LOS to their target.

 To initiate a Direct Fire attack, the unit you want to conduct the attack with must be *selected*, and you must be in “Fire Mode”. If currently in “Move Mode”, you must either depress the second-from-the-left Tool Bar button or hold down the **Ctrl** key to toggle to “Fire Mode”. In “Fire Mode” this button (and your on-map cursor) displays a “crosshairs” (a circled “+”). When your on-map “Fire Mode” crosshairs cursor “roams” over a hex containing a valid target (i.e., an enemy unit within range and in line of sight of the selected firing unit), a small box with two numbers is displayed over the target hex. This box lists (left to right) the firing unit’s nominal attack strengths vs. any hard and soft targets in that hex. Note that these Attack Strengths automatically increase as the range to the target decreases, and decrease as the range increases, thus simulating “range attenuation” (lessened firepower at increased range).

Example: “10/4” might be displayed when an anti-tank platoon targets a hex. “10” is the attack factor the platoon would use against a “hard” (or armored) unit in that hex, and “4” is the attack factor the platoon would use against a “soft” (or non-armored) unit in that hex.

On a 3D map, when the Fire Mode cursor roams directly over a valid target and highlights it in red, a more detailed box appears that lists (from left to right) that target’s Strength Points, its name, and the firing unit’s nominal attack strength vs. that target.

To carry out the attack, *right click* on the unit/hex you wish to attack. If playing on the 3D map you can *right-click directly on the 3D icon*. If you do not click directly on the 3D icon and the hex contains multiple potential targets, a Target Selection Dialog will appear allowing you to select the final target of the Direct Fire attack.

There is no limit to how many times an individual unit can be *attacked* in a turn. However, a unit can only *attack* if it has enough APs to perform the attack.

Infantry vs. Armor: Most infantry-type units can fire at a hard (armored) target only when it is adjacent to that target. This represents the fact that most infantry-carried “light anti-tank weapons” had a very short range (exception: some MG platoons have a two-hex range vs. “hard” targets). Note that as the war goes on, the lethality of infantry attacks vs. armor generally increases, reflecting the increased effectiveness of such anti-tank weapons Opportunity Fire

In *Campaign Series*, Opportunity Fire (OpFire, that is, friendly fire during the enemy’s turn in reaction to an enemy action) will occur automatically. OpFire has a chance to occur (and is performed automatically by the computer) when an enemy unit expends AP in the range and LOS of a friendly (opposing) unit, *providing* that friendly unit has enough “saved” AP (equal to or greater than its Fire Cost).

 During your turn you can automatically have a unit save enough APs to conduct OpFire in the following enemy turn. To do this, select the friendly unit and press the “Save AP’s for Firing” button on the Tool Bar. Note that you do not *have* to use the “Save AP’s for Firing” button to use OpFire—it just has to have enough AP left.

 When “Save AP’s for Firing” is in effect for a unit, a small full color “bullet” icon will appear along the left side of the Info Box of that unit, and the unit will not be allowed to expend all of its AP (in other words, the program will automatically save enough AP for the selected unit to be able to fire once).

Setting Opportunity Fire “Globally”

Using the Opportunity Fire dialog (available by selecting “Assign Opportunity Fire” from the Units pop-down menu, or by pressing hot-key **D**), you can set the *maximum* allowable range for a listed unit *type* to conduct OpFire. Ensure that no unit on the map is currently selected. The firing unit types are listed along the left side of the dialog; the possible target types are listed across the top. Selectable ranges for a firing unit are listed as **Short**, **Medium** and **Long**, and may be adjusted during play of a scenario as many times as desired. Basically, a unit’s “short” range is considered to be its maximum range vs that target type times one-third. Its “medium” range would be its maximum range vs that target type times two-thirds. *For instance, if a unit has a maximum range of 15 hexes vs a soft target, its medium range for that target type would be 6 to 10 hexes, and its short range would be 1 to 5 hexes.*

If you do not wish a certain *type* of unit to ever conduct opportunity fire at a certain target type, set that unit type’s range to “**N**” in the Opportunity Fire Dialog.

Setting Opportunity Fire for Individual Units

Opportunity Fire can also be set on a per-unit basis. This is useful when you want a certain unit to only fire at short range, but most other units of its type to fire at a longer range setting. To set OpFire for an *individual* unit, select the unit, then press the **D** hot key to display the OpFire dialog. The OpFire dialog that appears applies *only* to the selected unit(s). Other settings are grayed out. If more than one unit is selected, the options that are not grayed-out will affect all units selected.

Note: The most *restrictive* OpFire option set for a unit takes precedence; e.g., a globally-set option for a unit type to fire at “short” range will take precedence over an individually-set option for an individual unit of that type to fire at “medium” range.

Indirect Fire

Most scenarios feature a combination of Direct- and Indirect-Firing combat units. Artillery, mortars and rockets can attack using Indirect Fire, which is used to attack units both in the firer's LOS as well as units out of the LOS of the firing battery. Note that such units can also conduct Direct Fire vs. enemy units that are their LOS in the normal manner. Indirect Fire attacks however, unlike Direct Fire attacks, potentially affects *all* units in the target hex. *Important:* All indirect fire is “pre-plotted” one turn in advance (simulating the time it takes for a forward observer to establish access to the battery, plot the fire mission, call in spotting rounds, etc.). Once plotted, an artillery mission cannot be recalled.



Press the “Artillery Dialog” Tool Bar button to display the Artillery Dialog window, which displays each indirect fire unit for the current side. The best reason for using the Artillery Dialog is because it displays your “off-map” artillery as well as your on-map artillery. Each entry lists the Strength Points of the battery, the battery type, and its hex location. An entry listed in black is eligible to be fired that turn; if the entry is printed in gray that battery is not eligible to fire that turn (this may be due to the battery being in transit, out of range of all eligible targets, or because it is temporarily out of contact with its observer). Once the unit has expended all of its shots, it is automatically removed from the Artillery Dialog. Double-clicking on the unit in the Artillery Dialog will center the map on that unit, as will pressing the Locate button.

Units with an asterisk (*) preceding their name in the Artillery Dialog are considered “off-board” artillery. As such, these units are outside the playable map area, and cannot be moved or attacked and can only attack using Indirect Fire.

Note 1: If you plot an attack for an Indirect Fire-capable unit without using the Artillery Dialog (for instance, by simply selecting the on-map Indirect Fire unit and right-clicking on an intended target), the fire will automatically be resolved as Direct Fire if that target is in LOS of the firing unit.

Note 2: Most artillery units with full (i.e., 100) Action Points will be allowed two shots per turn, since the Fire Cost of most artillery units is 50 or less APs per shot.

Random Armor Disablement: An Indirect fire attack vs. an armored target has a very slight chance of disabling (i.e., eliminating) a SP from an armored unit.

To plot an Indirect Fire mission:

1) Highlight the battery in the Artillery dialog. **Note:** Pressing the Artillery Dialog's “Locate” button will display that battery's Info Box and hot-spot the hex that battery is in.

2) “Roam” your cursor over the map. Note that enemy units within range of the selected battery are highlighted in red. As your cursor roams over eligible target locations, small boxes appear listing that battery's hard and soft attack numbers (respectively) vs. that hex.

3) Right-click on the map (in a location displaying the hard/soft attack numbers) to plot that artillery fire mission. Most indirect fire units can be plotted to shoot twice per turn.



On-Call marker: A map location that has been targeted for one or more Indirect Fire or Air Strike attacks is marked with a circled “crosshair” icon as a reminder of the incoming attack.

Indirect Fire Density Modifier: In addition to the normal modifiers, in an Indirect Fire attack (only) each target unit's Strength Points (SPs) are multiplied by the applicable nominal attack strength and the result is then divided by 6 to find the effective attack strength vs. that unit. (In other words, effective Attack Strength = [nominal Attack Strength * SP#] / 6)

Example: A 6-SP target will have the nominal Attack Strength applied to it. A target unit of 2 SPs will have 2/6 (1/3) of the Attack Strength applied to it. The rationale for this calculation is that the indirect-fire results against a single target unit of, e.g., 4 SPs should be the same as the total indirect-fire results against two target units of 2 SPs in the same hex. The calculation will apply the indirect Attack Strength against target units proportional to their SPs, thus resulting in a total combat result comparable to firing at a single unit of the same total strength.

Indirect Fire by the Map: If the Optional Rule for “Indirect Fire by the Map” is enabled, you can plot Indirect Fire missions at hexes you don't have a Line of Sight to. If this Optional Rule is not on, you are limited to plotting non-Smoke fire missions only into hexes that at least one of your combat units has a Line of Sight to.

Drift: It is possible that plotted Indirect Fire can “drift” off the intended target hex. This is especially likely to occur if the targeted hex is out of Line of Sight of all friendly units.

Laying Smoke



Smoke Ammunition: An unit capable of firing Smoke and StarShell ammunition displays a small “smoke” icon in the icon bar on the left side of its Info Box. Engineer infantry, as well as many (but not all) units capable of indirect fire can “lay smoke”. Laying smoke is similar to firing normally, *except the Alt key must be depressed when you right-click on the target hex.* Firing Starshells, Press the **ALT + Shift** while performing a normal fire move.

Effects: A unit firing into or out of a hex containing Smoke has its Attack Strength halved (fractions rounded down, to a minimum of one). Smoke has no effect on assaults. Additionally, line of sight is blocked *through*—but not *into* or *out of*—a hex containing Smoke.

The total number of smoke missions available in a scenario for each side is listed in the Unit List (hot key **U**). Once the smoke number reaches “0” no more smoke may be laid by that side for the remainder of the scenario.

Night Combat “Gunflashes”

When a unit that would be in enemy LOS in a daytime scenario fires from (or suffers a mine attack in) a non-illuminated hex, that hex is marked with a Gunflash. The presence of the gunflash allows the enemy to fire at that hex. (Exception: A Gunflash cannot be spotted or direct-fired on at greater than the weather's visibility limit.) Fire at a Gunflash location is resolved at half firepower (fractions rounded up) if that hex is non-illuminated and is two or more hexes from the firer. If more than one unit occupies a Gunflash hex, the target unit is chosen randomly (assuming the firer can fire at that target hex only due to the presence of a gunflash) Exception: Indirect fire still affects all units in the hex. The results of an attack vs. a Gunflash hex are always “Unknown effects vs. unknown units”. A Gunflash is automatically removed at the end of the Player Turn after the Player Turn in which it appeared.

Design Note: When a unit fires at a Gunflash it is literally firing at the flashes of light—it is assumed the firer cannot see the target(s) in the hex—nor even how many targets are actually in the hex.

Starshells

In a Night scenario both sides will usually be allotted a number of Starshells. The number allotted to each side, if any, is listed in the Unit List below “Smoke”. The number of Starshells available to the phasing side is also displayed in the Status Bar (to the

right of the number of Smoke rounds available). If Fog of War is in effect, the number of starshells available for the opposing side is shown as a “?”.

A unit with an attack factor > 0 and at least 20 AP's can attempt to fire a Starshell during its Player Turn. Each attempt to fire a starshell costs 20 AP's, regardless of success. Each attempt to fire a Starshell has a 40% chance of success (this is decreased to 20% if the unit attempting to fire the Starshell is disrupted). Additionally, if a Leader is selected with a friendly unit trying to fire a Starshell, he will improve that unit's chance of successfully firing a starshell (a number equal to five times the Leader's Command Rating is added to the base success rate). If used thusly, the Leader also has 20 AP's deducted for each Starshell attempt he is used for (whether successful or not). A Leader by himself cannot fire a starshell; he must be selected with an eligible friendly unit. A Starshell can be fired by selecting an eligible unit, ensuring that the program is in Fire Mode and, while depressing the **Alt** and **Shift keys, right-clicking** in the target hex. The range from the firing unit that a Starshell can be fired is two hexes—unless the firing unit is using indirect fire, in which case it equals half (fractions rounded up) of the unit's maximum range. Also, a Starshell fired from an Indirect Fire unit is not delayed a Game Turn (unlike normal fire from such a unit). Once fired, the Starshell has a 40% chance of

landing in the intended target hex, otherwise it will land in one of the six hexes adjacent to the intended target hex.

Air Attacks

At the start of each turn you will be informed of how many Air Attacks you have remaining for use during the *entire* scenario (which also includes the current turn). If you use all of your listed Air Attacks in one turn, you will not have any to use in following turns. Due to the importance and strength of Air Attacks, it is usually wise to be conservative in their usage. Not every scenario will have Air Attacks.



To call for an Air Attack, select (“Hot Spot”) the location you wish to attack by left-clicking on it once. Then simply press the Air Attack button on the Tool Bar. A crosshairs icon will be placed in the selected location (the same icon used to denote an “on call” indirect fire attack). Note that only one Air Attack may be plotted per location. If you want more than one Air Attack to hit in the same area, simply plot the additional one in a nearby location.

IMPORTANT: Once plotted, an Air Attack cannot be cancelled nor re-plotted, so be sure to have the proper location selected when you plot the attack.

A plotted Air Attack has a 65% chance of arrival on each turn (and each turn thereafter until it arrives). An arriving Air Attack will not always attack the target you pick; it will “search” for a proper target within about a five hex radius of its plotted hex. The more targets that there are within that radius the less likely it is that the Air Attack will hit the plotted location. There is even a slight chance that an Air Attack may make a mistake and attack a “friendly” unit! Therefore, it is advisable not to request an Air Attack in an area that has a lot of friendly units.

If a side has more than one type of air attack assigned to it, the Air Attack that arrives is randomly determined from the “pool” of air attacks for that side (as determined by the scenario designer). The types and number of Air Attack still available to a side in a scenario (if any) can be viewed by selecting “Available Air Support” from the Status pop-down menu. This information is not shown for the opposing side if Fog of War is on.

 **Anti-Aircraft Attacks:** Any unit capable of Anti-Aircraft fire, *and* that possesses sufficient AP to fire and is not currently loaded on (in tow by) a vehicle might conduct Opportunity Fire at an enemy Air Attack if that Air Attack occurs within the *soft-attack* range of that AA unit.

Note: Anti-Aircraft fire from AA units with guns larger than 40mm have their attack factor reduced by 75% to simulate their reduced (i.e., non-automatic) rate of fire and slower reaction time. Such batteries were less capable of reacting to low-flying fast-attack aircraft since they were intended more for defense against high-altitude aircraft. Such guns were also more likely to be employed in a Direct Fire role vs. enemy ground targets and thus be less prepared for usage in an AA role.

Assault

To assault, the attacker(s) must have an Assault Value greater than “0”, must be *non-Disrupted* and in “Move” mode *and* must have enough APs to assault (20 AP *plus* the AP terrain cost of the hex being assaulted). Select the units to assault, then right-click on an *adjacent* enemy-occupied hex. If the assault is “legal”, the assault icon will appear in the hex and a dialog box will appear announcing the assault. If desired, you can repeat this method to add more attackers to the assault (up to the normal stacking limits, irregardless of the enemy units in the hex being assaulted). The more units that participate in an assault, the better the odds that the assault will be successful. More than one assault can be conducted by a unit in the same turn, depending on the number of AP the unit has remaining. Because assault combat is assumed to take place *in* the hex being assaulted, terrain modifiers do not apply to assaulting *non-vehicular* units.

Terrain Prohibitions: A unit can participate in an assault only if it would normally be allowed to enter the hex being assaulted; e.g., no unit can conduct an assault across a cliff hexside, nor across any other hexside that the unit could not normally cross.

Assault vs Pillbox: A vehicle cannot assault a hex containing a Pillbox (but can Counter-assault units assaulting *from* a Pillbox hex). This does not apply to Bunkers.

Surrender: The target of an assault is more likely to surrender if its hex is attacked from multiple directions, especially if those directions are diametrically opposed.



To resolve a designated assault, click on the “Resolve Assault” Tool Bar button. To cancel a planned assault, select “Cancel Assault” from the “Assault” pop-down menu.

Assault Value and Defense Strength modifiers:

Each *vehicular* unit participating in an assault has its Assault Value modified by the terrain modifier of the hex being assaulted.

A Disrupted unit defending in an assault has its Defense Strength halved (fractions rounded down, to a minimum of one); when “counterattacking”, such a Disrupted unit has its Assault Value halved (fractions rounded down, to a minimum of one).

The Defense Strength of a fortification in the defender's hex modifies the assault factor of each attacking unit.

The Assault Value of an attacking unit, or the Defense Strength of a defending unit, is increased by the presence of a Commander of that unit's organization.

The Assault Value of a passenger on an armored carrier capable of assaulting is halved and added to the Assault Value of the assaulting carrier.

The Assault Value of an *attacking* unit that is Low on Supply is decreased by one-fourth (fractions rounded down, to a minimum of one).

The Assault Value of a Fatigued attacker is halved (fractions rounded down, to a minimum of one).

The Defense Strength of a Fatigued unit being assaulted is halved (fractions rounded down, to a minimum of one).

Smoke and Assaults: Assaulting into, and/or out of, a hex containing Smoke has no effect on the Assault Value nor Defense Strength of any involved unit.

Facing Effects: The facing of a unit (the direction from which it is attacked) has no effect, even if the Optional Rule for Armor Facing Effects is on.

Counter-assault: Each assault also results in a “counter-assault” by the defending units. Normal assault rules apply to a counter-assault except that a disrupted unit can make a counter-assault.

Assault Odds: Because each assault also results in a “counter-assault” by the defenders, the “Assault Odds” dialog will list the assaulting units’ attack, as well as how they defend when being counter-assaulted (*Exception: The amount of information displayed depends on the Fog of War option in effect*). The numbers displayed in the assault odds dialog are after all modification due to the presence of a leader(s), low ammo, disruption and/or the presence of a fortification (or terrain modifier, if the assaulting unit is vehicular) in the assaulted hex. For each assault, a number of attacks is carried out depending on the SP of the (counter-) assaulting unit(s). The results are then applied to the proper line of the Combat Results Table.

Cancelling an Assault: If you decide that you do not wish to assault a hex, or wish to remove a unit from the assault, you must cancel the entire assault prior to its resolution. To cancel an assault, select “Cancel Assault” from the “Assault” pop-down menu.

Minefields & Engineers

A convenient way of slowing down or diverting an enemy attack is with minefields. Minefields are pre-set in a scenario and can only be removed by an engineer (referred to by the game program as a “Mine-Clearing Unit”). Each *non-engineer* unit that enters a minefield hex automatically triggers a mine attack vs. that unit, whereas a Mine-Clearing Unit can enter a minefield without being attacked (see Clearing Minefields and Blocks, below). The strength of a minefield attack is determined by the “level” of the minefield. A “1” minefield attacks on the 1:1 row of the Combat Results Table, a “2” minefield attacks on the 2:1 row, and a “3” minefield attacks on the 3:1 row. To view the strength of a minefield hex, switch to the “2D Normal View” map (hot key **4**), or turn on the Unit List (hot key **U**) and click in (hot spot) the minefield hex. The strength of the minefield is displayed in the Unit List along the right side of the interface.

Engineers Laying Smoke: Engineer infantry have the unique ability to “lay smoke” in their own hex.

Clearing Minefields and Blocks

An undisrupted engineer unit that *begins* its turn in a minefield or blocked hex will automatically lower the level of that minefield by one, or eliminate a “Block” fortification.

In *Campaign Series* the only Mine-Clearing Units are combat engineers.

Note: To locate Mine-Clearing Units, use the “Highlight” menu item from the “Display” pop-down menu, then select “Mine-Clearing Units”. All friendly units capable of clearing minefields will be highlighted.

Bridge & High Wall Demolition

An undisrupted engineer unit that has not yet expended any AP may attempt to destroy an adjacent “high wall” hexside or a hexside bridge using its inherent demolition capabilities. Select the engineer unit, then from the “Units” pop-down menu, choose “Damage Wall or Bridge”. In the dialog box that appears, select the hexside “direction” (up, up-right, down-right, etc.) to attack, and press the **OK** button. An attack is performed, using the engineer’s attack factor and its SP strength, vs. the inherent strength of the feature. Attempting a demolition requires 100 AP.

COMBAT EXPLANATION

When one unit fires at another unit (whether by Direct or Indirect fire) the basic method in which the attack is calculated is as follows:

(Modified Attack Strength) vs. (Modified Defensive Strength)

This attack vs. defense comparison determines the location (i.e., the “row”) of the Combat Results Table where the attack will be resolved. Note that attack-vs.-defense strengths between those listed on the Combat Results Table (access *Campaign Series*’s Parameter Data from the “Help” pop-down menu) are calculated individually by the program on a pro-rated basis, based on the result probabilities of the two CRT lines the attack falls between.

Example: A net attack strength of 11 vs. a net defense strength of 4 has slightly lower result probabilities than an attack of 3 vs. a defense of 1, but higher probabilities than an attack of 2 vs. a defense of 1.

1. The Modified Attack Strength is calculated by:

(Attack Strength[@] of attacker + c) x (terrain/fortification modifier of defender’s hex)^{**}

[@]: The Attack Strength is the Hard- or Soft-Attack Strength listed when the fire-mode cursor is roamed over the target hex (or if roamed over the actual 3D icon). This number varies depending on the range to the target.

c: Command Rating of same-hex Commander provided that Commander currently has APs greater than or equal to the AP Fire Cost of the *firing unit* **and** the firing unit is subordinate to that Commander.

^{*}: x .5 if firing unit is Fatigued, Disrupted, firing out-of/into Smoke (per each occurrence; FRD; minimum of 1).

Terrain/Fortification Modifier of Defender’s Hex. To view these modifiers, see the *Campaign Series* parameter data file (from the Help pop-down menu).

^{**}: certain terrain and fortification types will modify (increase or decrease) the Attack Strength of units that fire at targets in that terrain type.

2. The Modified Defense Strength is:

(defense factor of defender) + (fortification bonus*)

*: +20 if defender can claim benefit of bunker or pillbox.

When a unit attacks, the program actually conducts a *number of attacks equal to the attacking unit's SPs*. The number of SP is halved (FRD, to minimum of one) if the attacking unit is Low on Supply. The number of SP can also be increased if the target hex is richly populated with targets; see Direct Fire Target Density Value, below. The program then takes each individual result and determines the net result vs. the defender. Attack-vs.-defense strengths between those listed in the Combat Results Table are calculated individually by the program on a pro-rated basis, based on the result probabilities of the two Combat Results Table lines the attack falls between.

Direct Fire Target Density Value: If the total SP in the target hex exceeds 12, 12 is then subtracted from that number to arrive at an Excess Density Value. This value is then multiplied by 8% and by the SP of the firing unit (fractions rounded up), resulting in a density bonus. This density bonus is added to the nominal SP of the firing unit.

Damage Report Details: By default, the game does not display Damage Reports as attacks are executed; i.e., "Low Details" are in effect. To change to Medium Details, select "Details" from the "Options" pop-down menu, then select "Medium Details" from the "Details" pop-out menu.

To change to "High Details", Medium Details must *first* be in effect. Then, when a "Damage Report" box appears during the game, click on the toggle switch in the *upper left hand corner* of the Damage Report box (the small toggle switch with the "o"). When clicked on the button toggles to display an "x", thus indicating "High Details" are displayed. Whenever High Details are toggled on, you must manually close the Damage Report box (by clicking on the "X" button in the upper right corner, or by pressing the **Enter** key on the keyboard).

Direct Fire: Most combat units attack using Direct Fire, whereby the shooting unit must have the target unit in "Line of Sight" and within its range. A Direct Fire attack must target a specific unit in the target hex (unlike Indirect Fire, which can potentially affect *all* units in the target location). If playing on the 3D map you can right-click directly on the 3D icon you wish to fire at; if in a 2D map mode, you will be given a Target Dialog box when you fire at a hex containing more than one target.

Weather Condition	Visibility*	Weather Condition	Visibility*
Clear	20	Heavy Rain†	5
Overcast	18-19	Fog	4
Slight Haze	15-17	Thick Fog	3
Light Rain	10-14	Very Thick Fog	2
Squalls	8-9	Night	1
Light Fog	6-7		
* In hexes			

Combat Results

No effect: The target unit is unaffected by the attack.

Retreat (Morale Check): A unit that fails a Morale Check result is retreated out of its current hex. *Exception:* A gun battery and/or a unit in a Pillbox, Bunker hex is Disrupted instead. Each time a unit retreats it is subject to morale loss (see Morale Loss, below). A unit that cannot retreat takes an additional SP loss (which, of course, can still result in the unit's elimination).

Disrupted: The target unit is Disrupted, meaning that its Attack Strength and Assault Value are halved, it cannot *initiate* an assault (but can Counter-assault), it cannot move *closer* to the *nearest* enemy unit, and all AP expended for movement are doubled (to a maximum of 65 AP). An additional Disrupted result has no further detrimental effect on an already-Disrupted unit.

Reduction of Strength Point: A unit can lose one or more SP due to being attacked; a unit that has its SP reduced to "0" (zero) is eliminated. Each time a unit loses a SP it is subject to morale loss (see Morale Loss, below).

Elimination: If an attack results in the loss of all of a unit's SP that unit is eliminated.

Morale Loss: Besides the above "reported" combat effects, each time a unit suffers a Strength Point loss due to combat or a Retreat result, there is a 35% chance that its current morale will be reduced by one.

***Note:** A unit that has its **morale** reduced to 0 is eliminated regardless of the number of SP it has remaining.*

Morale Recovery

A unit that has suffered a morale loss has its morale value printed in yellow in the Info Box. A Disrupted unit with a reduced morale cannot recover from Disruption until its morale value has been restored to its "nominal" (i.e., full strength) value. To quickly gauge the morale of your units when playing on a 3D map, turn on the On-Map Thermometers (hot key **T**), then click once on the Morale display box in a friendly unit's Info Box to have the On-Map Thermometers graphically display your units' morale.

At the beginning of each friendly turn a unit whose morale is currently less than its full morale will have its morale increased by one if it passes a morale check. The program rolls a 10-sided die for each such unit; if the die roll is equal to or less than the unit's current morale the morale check is "passed". The presence of a friendly leader in the same hex that "commands" that unit will improve the odds of that unit regaining morale

Disruption Loss

At the beginning of each friendly turn a disrupted unit that *begins* its turn at *full morale* (i.e., its current morale rating is at maximum) will become undisrupted if it passes a morale check. The program rolls a 10-sided die for each such disrupted unit; if the die roll is equal to or less than the unit's morale its disruption status is removed. The presence of a friendly leader in the same hex that "commands" that unit will improve the odds of that unit passing the morale check and becoming undisrupted.

Fortifications

There are several different types of “fortifications”, each with different effects on play.

Improved Positions: Any unit in a hex containing an Improved Position gains a defensive benefit, in that the firepower of all attacking units is reduced by 25%. This is the only fortification type that can be “constructed” during play.

Trench: The firepower of a unit attacking a target in a trench location is reduced by 44% (or 56% of the firing unit's firepower is used). Only non-vehicular units gain a benefit from the protective modifiers of a trench. Most wheeled units must pay 65 AP to enter a trench location. Other units also pay an additional AP penalty to enter a trench location (the additional AP depends on the unit type).

Bunker: Units eligible to receive the defensive benefits of a bunker have 20 added to their Defense factor, as well as reducing firepower of all attacking units by 25%. Only non-vehicular units gain a benefit from the protective modifiers of a bunker.

Pillbox: Similar to Bunker, except that a unit receiving the benefit of a Pillbox can only be attacked as if it were a hard target (this to simulate a concrete emplacement). Only non-vehicular units gain a benefit from the protective modifiers of a pillbox. A vehicular unit *cannot assault* a hex that contains a Pillbox.

Minefield: Whenever a *non-engineer* unit *enters* a Minefield hex a mine attack is immediately carried out against it. Minefields come in three strengths: 1, 2 and 3, which represent the strengths corresponding to the “odds” line of the Combat Results Table that the attack is resolved on; i.e., a “3” Minefield attack is executed on the 3:1 line. Mines can be removed during play by a non-Disrupted engineer unit that *begins* its turn in the Minefield hex. Mined hexes provide no defensive benefit to any unit occupying such a hex.

Blocked: A “blocked” hex represents an impediment to movement (roadblock, barbed wire, felled trees). Each unit that enters a Blocked hex must expend 65 APs. Blocked hexes provide no defensive benefit to any units. “Blocks” can be removed during play by a non-Disrupted Engineer unit that begins its turn in the hex containing the “block”.

✎ **Digging In:** Additional Improved positions can be constructed during play by “Digging In”. Only a unit displaying a small “shovel” icon near the bottom of the icon bar on the left side of its Info Box is *capable* of Digging In (generally, this includes most non-HQ infantry-type units, but not vehicles or guns).



To have an eligible unit begin Digging In, select an eligible unit, then press the “Digging In” Tool Bar button.

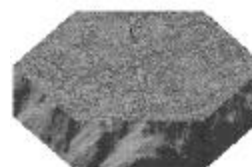
✎ When a unit is currently engaged in Digging In, the small shovel icon moves toward the top of that unit's icon bar of its Info Box. At the beginning of each turn there is a 10% chance that a unit will construct an Improved Position if it begins that friendly player turn Digging In (Exception: An engineer unit has a 20% chance). If a unit that is Digging In conducts an attack, its Attack Strength is halved (fractions rounded down, to a minimum of one).

Terrain Types of Divided Ground

The battles included in Divided Ground cover a large portion of the Mediterranean

The following terrain section shows a representative picture of each terrain type, a typical 3D map hex of that terrain, a brief description of the terrain, as well as the terrain's combat modifier, concealment value (range modifier if “hexside” terrain) and other special information. The “TEM” given is the amount of the otherwise-applicable attack strength that is allowed to ‘hit’ a target occupying such terrain. If two or more apply, they all have an effect; e.g., a unit attacking a target in a forest hex behind a hedge would use .72 (.8 x .9) or 72% of its “normal” attack strength.

Clear



Clear terrain is open ground that provides little or no cover. Non-armored units (only) in clear terrain have their morale reduced by one when fired upon.

TEM: 1.0 Concealment: 0 Morale Mod: -1 Height: 0m

Beach



Beach terrain represents a large expanse of flat, open, sandy terrain along a coast line suitable for conducting amphibious operations.

TEM: 1.0 Concealment: +1 Morale Mod: 0 Height: 0m

Field



Fields come in three varieties: “in season”, “plowed” or “out of season”. If in season, a field’s tall crops serve to block some lines of sight. A “plowed” field provides no cover (and is thus like open ground) but is a slight impediment to some units’ movement “Out of Season” fields are identical to “clear” terrain for all purposes.

TEM: 1.0 Concealment: -1 Morale Mod: 0 Height: 2m

Shallow Water



This terrain represents water (most commonly found along a shore line) that is shallow enough to allow entry of vehicles and foot traffic. A unit in shallow water will not retreat (but will instead take an additional casualty) unless it can retreat into a land hex.

TEM: 1.0 Concealment: +3 Morale Mod: -1 Height: 0m

Water



Water represents an expanse of water, such as a lake, river, canal or sea, deep enough to prohibit entry by normal ground units without some form of conveyance (such as rafts, boats or some type of bridge).

TEM: 1.0 Concealment: +3 Morale Mod: -1 Height: 0m

Orchard



A cluster of cultivated fruit trees. Orchard terrain can also be used to represent an area of light woods.

TEM: 0.9 Concealment: -1 Morale Mod: 0 Height: 4m

Marsh



An area of low-lying wet land with a small amount of cover. Vehicular entry of an unfrozen marsh is prohibited unless via some type of road.

TEM: 0.95 Concealment: -2 Morale Mod: +1 Height: 3m

Rough



Rough terrain is an area with large, craggy boulders and small undergrowth, such that vehicles cannot enter the terrain unless via some type of road.

TEM: 0.8 Concealment: -2 Morale Mod: 0 Height: 2m

Village



A rural settlement. In Divided Ground village structures are considered to be of clay and wood construction.

TEM: 0.7 Concealment: -3 Morale Mod: +2 Height: 10m

Suburb



This type of terrain represents a residential community of tightly spaced dwellings such as workers settlements for factories, usually on the outskirts of a large city. A road is considered to enter a suburb from all hexsides, otherwise a suburb is identical to a village.

TEM: 0.7 Concealment: -3 Morale Mod: +2 Height: 10m

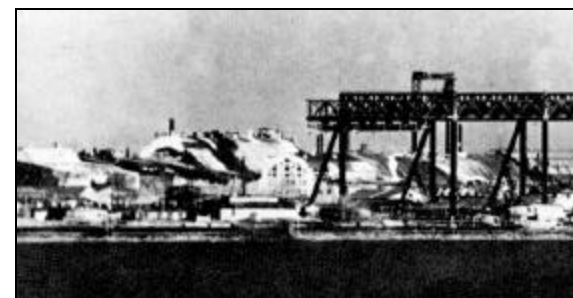
City



City terrain represents an urban area of large, brick and concrete buildings providing very good defensive benefits. A road is considered to enter a city from all hexsides.

TEM: 0.6 Concealment: -3 Morale Mod: +3 Height: 25m

Industrial



A large industrial complex providing excellent defensive benefits.

TEM: 0.5 Concealment: -3 Morale Mod: +4 Height: 20m

Special Building



This represents a specific large building and provides very good cover for non-vehicular units. While vehicles can enter a Special Building hex, they are considered to be outside the structure and thus gain no defensive benefits from it.

TEM: 0.6 Concealment: -3 Morale Mod: +3 Height: 15m

Rubble



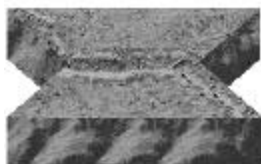
City, suburb, village and factory terrain (only) can be rubbled. The terrain, concealment and morale modifiers remain the same as the original terrain.

TEM: * Concealment: * Morale Mod: * Height: 50%**

* Depends on the previous terrain type; ** Rubble height is 50% less than original terrain type.

Hexside Terrain features in Campaign Series include...

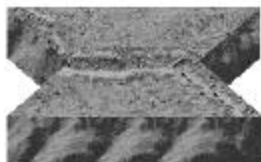
Anti-Tank Ditch



A man made ditch to stop armor from crossing. Infantry can still cross at a high action cost. In the 3D this ditch looks like a gully, but hold your shift key and you will see that they are labeled Anti-Tank ditch's. In the 2D view the AT ditch is a fatter icon then the gully

TEM: – Range Modifier: 0

Gully



A small, dry ravine that acts as an impediment to movement.

TEM: – Range Modifier: 0

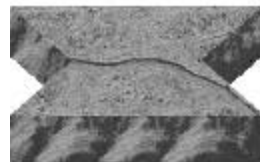
Minor River



Minor river hexsides represent bodies of water that are deep, or have steep enough embankments, to prohibit movement over them unless via a bridge. Note that the map art for minor rivers is a *darker* blue than the map art for streams.

TEM: – Range modifier: 0

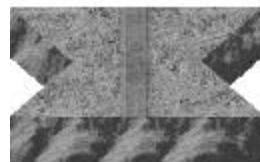
Stream



A stream represents a small body of running water that hinders movement of most units, but is not deep or wide enough to prohibit movement over it without a bridge. Note that the map art for streams is a *lighter* blue than the corresponding art for minor rivers.

TEM: – Range modifier: 0

Paved Road



This represents a road with an improved (paved) surface—the best way for most units to travel fast.

TEM: – Range modifier: 0

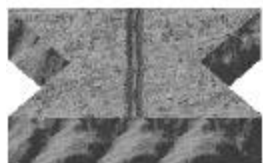
Unpaved Road



This represents a “secondary” road with an unimproved (usually dirt) surface. In the muddy season these are usually best avoided.

TEM: – Range modifier: 0

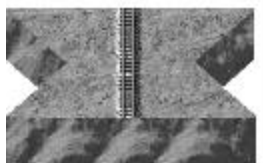
Path



This represents a cart path or wide foot path. An ideal way for infantry to move through wooded terrain. The muddy season can also play havoc with these features.

TEM: – **Range modifier:** 0

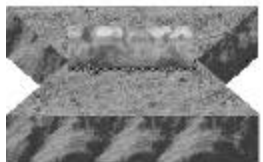
Railroad



While traveling along a railroad can be quicker than blazing a new trail through woods, it can still be a slow and bumpy ride for vehicles.

TEM: – **Range modifier:** 0

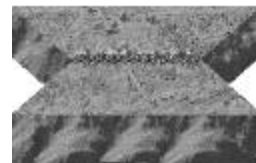
High (fortified) Wall



This represents a very thick concrete wall, similar to those built as part of massive fortifications, such as the forts at Sevastopol. High Wall hexsides cannot be crossed by any unit unless that high wall hexside has been destroyed by Engineers (see page 46).

TEM: – **Range modifier:** 0

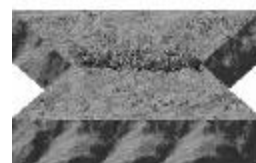
Low (stone) Wall



This represents a low stone wall—sufficient to give cover but not high enough to have an effect on line of sight. Wheeled units cannot cross low walls.

TEM: 0.8 **Range modifier:** +2

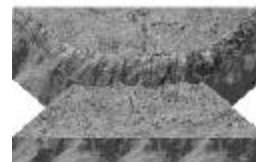
Hedge



This represents a low hedge—sufficient to give cover but not sufficiently high or thick enough to have any effect on line of sight.

TEM: 0.9 **Range modifier:** +2

Embankment



An abrupt rise in the ground, sufficient to provide good cover. While all units can cross an embankment, there is an additional cost due to the steep slope.

TEM: 0.8 **Range modifier:** +2

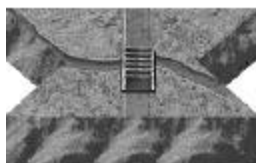
Cliff



A high, steep face of rock, impassable to all units.

TEM: – **Range modifier:** 0 **Special:** No units may cross.

Heavy Bridge



This full hex or hexside feature represents a bridge that is sturdy enough to carry all types of traffic, including heavy tanks.

TEM: – **Range modifier:** 0

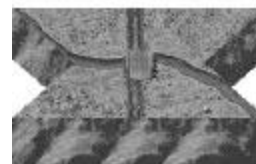
Medium Bridge



This hexside-only bridge is strong enough for trucks and light tanks, but not sturdy enough for medium or heavy tanks to safely cross.

TEM: – **Range modifier:** 0

Light Bridge



This hexside-only bridge represents a small bridge that only infantry, cavalry, wagons and the lightest vehicles can cross.

TEM: – **Range modifier:** 0

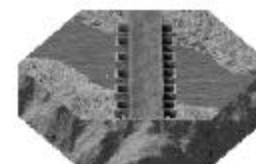
Ford



A shallow place in a minor river or stream.

TEM: – **Range modifier:** 0

Pontoon Bridge



A pontoon bridge can be light, medium or heavy, depending on the strength set for it in the scenario editor. The capacity of a "heavy pontoon bridge" is the same as the capacity of a "heavy (non-pontoon) bridge", etc.

TEM: – **Range modifier:** 0

Concealment Values & Fog of War

If “Fog of War” is on, enemy units are not automatically revealed when one or more of “your” friendly units has a line of sight to that enemy unit’s location. Each unit in the game has a “Concealment value” (“UC#” in the formula below), and each full-hex terrain type has a “Concealment value” (“TC#”), that the program utilizes when determining whether or not that unit has been “spotted” by the enemy. The program uses the following calculation (in the formula, “FRD” means “fractions rounded down”):

$$(UC\# + SP \text{ of unit [halved, FRD if non-vehicular]} + TC\#) - (\text{modified range}/2 \text{ [FRD]})$$

The “modified range” is based on the hexside terrain (if any) being viewed “through” (i.e., if the line of sight from the viewing unit crosses a hexside terrain type as it *enters* the hex of the unit being viewed). The hexside “range modifier” is added to the range (in effect increasing the range). The number determined by the formula is then “bounded” by 0 and 8 (in other words, it cannot be lower than “0” or greater than “8”). The program then generates a random number from 0 to 9 (inclusive); if that random number is $\leq$ the final number from the formula the affected unit becomes spotted (i.e., visible on the game map).

When a unit moves or fires it is always revealed. In order to become unspotted, a unit must regain its concealment status by beginning its turn out of the line of sight of all enemy units.

Commanders



A Commander (or leader) can perform several crucial functions. Not all organizations will have a Commander present on the map; consider any Commander that is present to be a “special” personality. To locate the units subordinate to a Commander (i.e., under his command), select that Commander and press the “Highlight Organization” Tool Bar button; all units subordinate to him will be highlighted.

The higher the Command and Leadership Ratings of a Commander, the more valuable that Commander is. These values are displayed in the Commander’s Info Box when he is selected.

A Commander in the same hex as a firing unit that is *subordinate to him* will automatically modify the Attack Strength of that attacking unit equal to his Command Rating (listed in the Commander’s Info Box), *provided* the Commander has AP greater than or equal to the Fire Cost of the *firing* unit. A Commander used thusly to “direct” fire automatically expends AP equal to the AP spent by the firing unit. Only the Commander with the highest command rating participating in an assault modifies his side by his Command Rating.

A Commander will modify the morale of each unit *under his command* (i.e., subordinate to him) that occupies his hex. This will be noted by the unit’s morale being **red** in the Info Box. The morale of the unit will be equal to the morale of the Commander if the Commander’s morale is higher than the unit’s. If the Commander’s morale value is less than or equal to the unit’s, the unit’s morale is increased by one. Since a Commander modifies the morale of each unit under his command in his hex, the chance of a such a unit regaining morale or losing Disruption is increased, as these are based on passing morale checks.

A Commander cannot be singled out as the target of an attack unless he is the *only* occupant of a hex. Therefore, it is advisable to keep your Commanders stacked with friendly unit(s) of his command. Each time a hex containing a Commander is attacked there is a 2% chance he will become a casualty.

Motorized Leader Exception: Even though a motorized leader uses “wheeled” movement type, the program allows this unit (unlike other wheeled units) to enter rubble hexes. In this way, a motorized leader can “keep up” with half- and fully-tracked units better.

HQ and Supply

At the start of each friendly turn, a supply check is made for each friendly unit that fired in the preceding turn. This check is made to *maintain* supply if the unit is not currently low on supply. If the unit *is* currently low on supply this check is an attempt to *regain* supply.

Maintaining Supply: A unit attempting to maintain supply does so through its “parent” HQ. If a platoon’s “parent” (e.g., battalion) HQ is not on the map, the program will search the map for other HQ commanding that unit; e.g., the unit’s regimental or divisional HQ. The program measures the range that the unit is from its parent HQ, and uses this range to determine a base probability. It then makes a percentile die roll and supply is maintained if that die roll is less than or equal to that base probability. Basically, the closer the unit is to its HQ the better its chance of maintaining supply. (If in the same hex as its HQ—and that HQ is “in supply”—supply will be maintained automatically.) If the unit’s “parent” HQ is not currently on the map, it uses that HQ’s “parent” HQ instead.

To check the supply range of an HQ, select it and press the **W** hot key. Any unit in a shaded hex has less than 50% chance of maintaining supply through the selected HQ. As a unit’s range from its HQ increases, the chance of it maintaining supply decreases, but never drops to zero due to range alone. At the ranges listed below, a unit has a 50% chance of maintaining supply via its HQ.

HQ Type	Range in Hexes
Army	unlimited
Corps HQ:	90
Division HQ:	30
Brigade HQ:	15
Regiment HQ:	15
Battalion HQ:	8

If a unit fails to maintain supply via its HQ, the program *then* checks for supply again, but this time using the friendly side’s base ammo level (turn on the Unit List to display the base ammo level; hot key **U**). When checking to maintain supply using the base ammo level, a “percentile” (0-99) die roll is made and compared to that side’s ammo level. A die roll equal to or less than this ammo level means that the unit maintains supply. If the die roll is greater than the ammo level, that unit will be Low on Supply for the current turn.

HQs: An HQ can only provide supply to units under its command “umbrella”. In addition, an HQ is never able to provide supply on any turn following a turn in which it *changed its location* (this simulates the HQ having to set up and re-establish communica-

tions). Besides that, each HQ (exception: Army) must also make a supply check at the beginning of each turn. Like a normal combat unit, the HQ *first* checks supply based on the distance from *its* “parent” HQ, however, if that supply check fails it then checks using the base ammo level listed for for its side.

Indirect Fire units: Maintaining supply differs for Indirect Fire units (whether off-board or not) in that they check supply *only* against their side’s base ammo level (as described above). If the battery fails to maintain supply it will be unable to fire during the current turn.

Regaining Supply: At the start of each friendly turn, a supply check is made for each non-isolated friendly unit that is currently Low on Supply. The procedure is the same as for maintaining supply, except that the base ammo level is not used (i.e., supply can be regained only via a friendly HQ as described above). There is only one exception: Indirect Fire units check to regain supply *only* using their side’s base ammo level. If there is no “higher level” HQ on the map for a unit it will be unable to regain supply.

Effects of being Low on Supply: A combat unit that attacks *using Direct Fire* will only attack a number of times equal to its Strength Points divided by two, fractions rounded up (keep in mind that such a unit normally is allowed a number of attacks equal to the number of Strength Points it has). A Low-on-Supply *artillery* (indirect fire) unit cannot attack (this actually represents that battery not receiving proper fire orders, or a breakdown in communications or it being used to support other units in a nearby battle). A Low-on-Supply HQ is unable to provide supply to other units under its command. Note that units are never *out* of supply, a unit that is Low on Supply can still attack, albeit at reduced effectiveness (exception: Indirect Fire units and HQ reported as “unavailable”). Any Low-on-Supply unit that assaults does so at 3/4 effectiveness.

 A unit that is Low on Supply is indicated by a “hollow” bullet icon near the top of the icon bar along the left side of the Info List. To highlight all friendly units that are Low on Supply, from the “Display” pop-down menu select “Highlight” then “Units/HQ Low on Supply”. All affected units will be highlighted. Depending on the map size, you may want to zoom out to locate all the affected units.

Design Note: A unit that is “Low on Supply” actually represents a unit that is having to *conserve its ammo*—sometimes because communications have broken down and the unit is unsure of its current status or even its own whereabouts. Perhaps the unit is simply confused due to the stress of battle, has received confused or conflicting orders (or maybe *no* orders), or actually is hard-pressed and the order has been issued to “make every bullet” count.

How to Win

Victory in a standard (i.e., *non-campaign*) scenario is determined by the number of Victory Points (VP) your side has amassed at the end of the scenario. Victory Points are scored in three basic ways:

1) Control of Objectives: Certain hexes on the map are deemed important enough that the side that controls them at scenario end gains extra Victory Points or denies those Victory Points to his opponent. Only the player designated as being the “First Side” (generally, but not always, the attacking side) gains Victory Points by controlling an objective—and only at the end of the scenario. The “Second Side” (also the side moving second in a Game Turn) simply gains a benefit of controlling objectives by denying those VP to his opponent.

Each on-map objective hex is designated by a special marker (this varies, depending on map view). On the 3D map views objectives are marked by rectangular “plaques”; on the 2D map views objective hexes are marked by oval or circular symbols. Regardless of the map view the objectives are always color-coded to the current controlling side. Furthermore, on all views but the 2D zoom-out the objective markers also list the Victory Point value of that objective.

Note that objective markers are “on” by default. To toggle them off or on, press the **O** hot key. To quickly review the objective hexes in a scenario, select “Objectives...” from the “Status” pop-down menu (you might find it beneficial to first switch to the 2D normal or 2D zoom-out map mode before doing this). Clicking on an objective listed in the dialog will scroll the map to that objective.

At the start of a scenario each *non-exit* objective is controlled by one side or the other (most objectives are usually controlled by the defending side). Control of an objective (*Exception: “exit objectives” can never be “controlled”*) is awarded to the last side to occupy that hex with a combat unit (one capable of direct or indirect fire, even if such a unit is currently a passenger or rider). Leaders and unloaded transport units cannot claim control of an objective.

2) Elimination of enemy strength points: Victory Points are scored for each strength point of an enemy unit eliminated (depending on the VP value of that SP). To view the current number of VPs scored due to elimination of enemy strength points, select “Victory...” from the “Status” pop-down menu. The number in the “Total [side] Point Loss” window is the number of VPs scored in this manner. For a more precise breakdown of the exact type of losses inflicted, and their point value, select “Strength...” from the “Status” pop-down menu. The windows on the right side of this dialog list the number and type of each strength point eliminated (and, in parentheses, the VP value of each such SP).

To find the VP value of the SP of a unit, select that unit and press the **F2** key to access the Unit Handbook (keep in mind that this VP value is per strength point, not the total VP value of the unit).



3) Exit Objectives: An objective *initially listing a value of “0”* is an “exit objective” for the side corresponding to the color of the objective. Each unit of that side exited from such an objective is worth VPs to that side. To exit a unit from the map (whether from an objective hex or not) move the unit into the map edge hex, and press the “Remove Units” button (or select the unit, then select **Remove From Map** from the “Units” pop-down menu). As units are exited off an exit objective the current number of VPs exited from that objective are immediately tallied and reflected by the new number shown on that objective. (**Note:** If a unit is removed from the map edge hex that is not an exit objec-

tive no VPs are awarded, but neither does the exiting side lose VPs for such a removed unit; this is a way to deny VPs to your enemy if the unit has no recourse but to exit.) A removed unit cannot be reentered during that scenario.

Victory Conditions

The objectives' values, when added to the casualties inflicted in the scenario, determine the level of victory for each army.

The overall victory conditions apply only to the First Side; i.e., the side that moves first in each turn. The First Side has its objective points added to enemy point losses (i.e., casualty VP) then subtracts the point loss for friendly casualty VP, to determine the total number of VPs. To check the current level of victory in a non-campaign game scenario, select "Victory" from the Status pop-down menu.

A scenario does not end when one side achieves a Major Victory (or Major Defeat); the level of victory may change during the course of play as casualties occur and Objectives change hands. Only the level that exists at the *end* of the scenario applies for determining the winner.

Any of five levels of "victory" are possible for the First Side:

A **Major Defeat** is declared if the point total is less than or equal to the total listed for "Major Defeat" in the Victory Dialog.

A **Minor Defeat** is declared if the point total is greater than the total listed for "Major Defeat", but is less than or equal to the total listed for "Minor Defeat" in the Victory Dialog.

A **Draw** is declared if the point total is greater than the total listed for "Minor Defeat", but is also less than the total listed for "Minor Victory" in the Victory Dialog.

A **Minor Victory** is declared if the point total is greater than or equal to the total listed for "Minor Victory", but is less than the total listed for "Major Victory" in the Victory Dialog.

A **Major Victory** is declared if the point total is greater than or equal to the total listed for "Major Victory" in the Victory Dialog.

Optional Rules

Some Optional Rules are available to add variety to game play. Once the game begins, the player can select the rules at the A/I selection screen. Once a scenario has begun the Optional Rules in effect for that scenario can not be changed.

Indirect Fire by the Map allows you to target Indirect Fire on hexes that are not in the Line of Sight of units on your side. Such fire is likely to drift into another hex. Drifting can be up to two hexes from the originally plotted hex.

Extreme Fog Of War further modifies the Fog of War effects. Names of enemy units are hidden. The unit's Strength is also hidden, unless the unit is in "clear" terrain. Furthermore, assault odds will be unavailable.

Command Control Under this rule, the HQ supply "ranges" are varied depending on the year and the nationality. Each nationality has a built in modifier that modifies the base "50% range" of each HQ. Thus, a battalion HQ, that normally has a 50% range of "8", has that multiplied by 1.20, thus resulting in a new "50% range" value of "10".

In addition to the above modifier (depending on year and nationality), any HQ that is stacked in the same hex with the leader associated with that HQ, has its base "50% range" increased by that leader's Leadership#. For instance, a divisional-level leader only increases the range of his division's HQ, not the regimental and/or battalion HQ of his division.

 **Command Post:** If the Optional Rule for "Command Control" is enabled, a company-level "Command Post" (CP) is deemed to be inherently present with the first platoon of each company. If the first platoon is eliminated, the benefits of the CP are lost (it would be unrealistic to have the CP duties passed on in the time frame of a typical scenario). A CP unit is denoted by a radio icon displayed in the icon area along the left side of the Info Box. In addition, all friendly CP units are highlighted when you select Highlight HQ.

Units that operate beyond their company CP range (or if their CP is not present on the map) are subject to the following penalties:

a) Less chance of Morale recovery (-1)

b) Less chance of Disruption recovery (-1)

A CP has an effective range (radius) which is about half the range of that side's battalion HQ. A CP's range is highlighted if it's selected when the **W** hot key is pressed.

Note: The radius highlighted by the **W** hot key is the limit of company CP control while for battalions it is the 50% chance of re-supply. This in effect means that units slightly beyond the battalion HQ radius can still be re-supplied, but at a rate slightly less than 50%. However, units outside the Company CP radius suffer the penalty as described above.

Armor Facing Effects only applies to Direct Fire vs. armored (i.e., "Hard") targets. When this Optional Rule is in effect, the Defense Strength used when resolving *Direct Fire* is based on the facing of the defender relative to the firing unit (the basic Defense Strength is still used when resolving assaults).

VI. The Editors

There are four basic steps to designing a successful scenario for *Divided Ground*:

- 1) Laying out your Map (creates a "map" file)
- 2) Laying out your Order of Battle (creates an "org" file)
- 3) Laying out your Scenario (creates a "scn" file)
- 4) Testing your Scenario

Note 1: Each scenario requires a "map" file, an "org" (i.e., organization) file, and an "scn" (i.e., scenario) file. Even though more than one scenario can use the same "map" or "org" file, each scenario will have a separate "scn" file. Most of the "set piece" (non-campaign) scenarios that come with the game use a naming convention whereby a major geographic reference appearing on the map is used as the file name for each respective file.

Note 2: You can even use (import) any of the pre-existing map or org files in scenarios you create. However, it is imperative that you **do not edit** any of these files (nor any of the scn files), as doing so may result in any scenario using such an altered file not opening properly or an upgrade not installing properly. *If you do want to make changes to one of the pre-existing scenario files, be sure to first **rename** that file using the "Save As" command from the "File" pop-down menu.*

In each editor the Menu Bar will be displayed across the top of the screen. Many functions for each editor can be accessed from the Menu Bar. For details on each menu and its function refer to the General Help file in the Help pop-down menu of the Menu Bar.

The Map Editor

At the Main Menu Screen, press the **Edit Map** button.

The Map Editor screen will appear. At this screen you can choose to use the various controls and slider bars (see illustration above) to create a new random map, or you can press the **Edit Existing Map** button to bring up a dialog box listing all .map files contained in the *Divided Ground* directory.

If you are starting a *new* map, you have two basic choices:

1) Use the various controls (slider bars, toggle switches and up/down arrows) of the Map Editor screen to set basic parameters for the map. These parameters include the map dimensions, base level of the terrain, whether or not you want the map to have a coastline, lake or a major river. Also provided are “slider bars” for each terrain type. The higher the value of the slider bar, the more prevalent that terrain type will be on the map (or the wider the river). When you have adjusted these levels to your satisfaction, press the **Make Map** button and the program will create a random map based on your settings. You can then edit this map in the map editor program.

2) If you instead wish for your map to start with a “clean slate” so that you can define all of the terrain, simply adjust the map dimensions to the desired size (leaving all “slider bar” settings at the default “0”) and press the **Make Map** button. The program will generate a blank map and open it in the map editor program.

Editing your Map

Once you have pressed the **Make Map** button (or have elected to edit an existing map), the map editor program will open.

By default, the map editor starts in the 2D Normal view. You will probably find it is easier to create maps in this mode. However, you can change the view at anytime to whatever map view you find easiest to work in.

The entire map can be “rotated” 180° (thus allowing you to view it with its “top edge” at the “bottom”). It is a good idea to plan the layout of your map so that the opposing forces will end up being situated roughly along the top and bottom edges. Thus, a player can always view “his” units along the “nearer” bottom edge, facing the enemy along the “further away” top edge.

Map Dimensions

You may have decided that the original dimensions you selected for your map were not large enough, or too large, depending on the overall scenario you wish to create. To change the size of your map select **Resize** from the “Extent” pop-down menu. Type in the desired width and height of your map, in hexes.

Note: There is a restriction that confines each map to having an even number of hex columns; i.e., you can't have an “odd” number for a map's width.

TIP #1

SCALE: Keep in mind that each hex in the game represents an area approximately 250m from side to side or top to bottom (thus, one km would be 4 hexes).

Map Elevation

You can also change the base elevation and adjust the elevation change delta. To change these values, select **Elevations** from the “Values” pop-down menu. To define the height (in meters) of the *lowest* elevation on the map, input a number for the “Base” value. To set the difference (in meters) between elevation levels, input a number for the “Delta” value.

You can raise (or lower) the entire map's “base” terrain by selecting **Extent** in the Menu Bar, then selecting **Raise** (or Lower).

Next you may wish to adjust your map's elevations (hills, gullies, etc.). To change a hex's elevation select the appropriate number from the Elevation pop-down menu. You can then left-click in a hex to change the base level of that terrain to the selected level.

Note: A vehicle (only) is not allowed to cross a hexside if the elevation “delta” of that hexside is >50m (regardless of the number of elevation level changes along that hexside). This applies regardless of the presence of roads.

Important: It is important that all elevation “breaks” (the elevation changes between adjacent hexes) be limited to a maximum of three (though most breaks should still only be a height of one), as the 3D map hexside **graphics** do not support elevation changes of four or more.

TIP #2

BASE ELEVATION & DELTA: The map editor's default values for these are “0” (sea level!) and “25” respectively. Most likely you will need to change these.



The Map Editor's Tool Bar

The various buttons of the map editor's Tool Bar provide an easy means to quickly switch from one map editing tool to another. A description of each button is provided when you roam your cursor over the button. For even more information on what each Tool Bar button is for, as well as descriptions of all of the items of each pop-down menu, press the **F1** key, or select **Contents** from the “Help” pop-down menu.

Note: In order to click on hexes of the map without changing the data, use the “None” tool on the Tool Bar. This allows you to examine an individual hex without making any changes. If you accidentally change a hex you can always use the “Undo” button to return the hex to its original state.

Each terrain type and hexside type have a corresponding button on the Tool Bar. Select the terrain you wish to place, then left-click once in the hex that you wish to have that terrain. For hexsides, select the hexside type you wish, then click on (or near) the hexside you wish to have it on.

You can remove a terrain (hex or hexside) type you have placed by *right-clicking* on the hex. This will return that hex to a clear terrain.

Map Labels: You can also use the Tool Bar to name or label certain areas or features of your map. Press the Tool Bar button displaying **T±**. Then left-click on the hex you wish to

label. A dialog box will appear allowing you to input a name. You can also adjust the size of the copy, and the color (“Plain” for a black label, “Water” for a blue label, and “Forest” for a green label). The “Justification” allows you to center the map title, or have it “flush” left or right. **Warning:** If the “T±” (map labeling) button is “on” (i.e., depressed), a right-click on the map will delete the nearest map label to the area right-clicked on.

To toggle map labels on (or off), press the **T** Tool Bar button.

Fill: To quickly fill in large areas of your map with one particular terrain type or elevation there are two “fill” features that you can use:

Cluster Fill: Hold down the **SHIFT** key when left-clicking a “full hex” terrain type on the map to fill in the clicked-on hex, as well as the six adjacent hexes. This does a 7-hex “cluster” fill.

Rectangular Fill: Hold down the **Ctrl** key after selecting the upper/left corner, then, while continuing to depress the **Ctrl** key, click on the lower/right hex to have the selected terrain type fill in.

After using either “fill” feature, you may want to “touch” them up so they do not look like they are placed on the map in a pattern. Adding or removing some terrain hexes to the outer edges will make the terrain “fill” look more natural.

Bridges: If you wish to create a bridge across one or more *full hexes* of water, simply create a road (paved, unpaved, RR or path) in a “straight line” (i.e., without curving) across that water hex and the program will automatically create a “full hex” heavy bridge. Roads placed across water should not “turn” or the program will not place a bridge.

Note: Full-hex bridges can be damaged, and pontoon bridges can be placed, in the Scenario Editor.

Saving the Map File

From the File pop-down menu, select **Save**. When the Save As window appears, type in a name for your map. Your map file will be saved in the *Divided Ground* directory with the extension *.map*.

Once you have completed and saved your map you can leave the map editor by selecting **Exit** from the File pop-down menu.

Note: It is a good idea for you to save your map file, your order of battle file, and, eventually, your scenario file, all with the same name. The computer will automatically add the proper extension. For example, if you are creating a Lvov scenario, save your map as *Lvov.map*, your order of battle as *Lvov.org* and your scenario file as *Lvov.scn*.

The Order of Battle (OOB) Editor

Besides needing a map, each scenario also requires an “org” (short for “organization”) file. It is this file that the various and sundry company, battalion, division and corps organizations are “written” to—organizations that contain the actual combat units that move around and fight on the map. The *Divided Ground* Order of Battle (OOB) Editor allows you to pick from a very wide variety of historically accurate military organizations.

From the Main Menu, press the **Edit Order of Battle** button to launch the OOB editor. It is a good idea for you to have some familiarity with the organizations that you wish to include in your scenario. Once you locate them in the OOB editor, you can create an OOB using those “org” (organization) types.

The first step in setting up your OOB is to set the date. Usually, this date should be the same as your scenario’s date. Set the date (month and year) with the pop-down boxes on the OOB editor’s Tool Bar.

OOB Editor Tool Bar

The OOB Editor’s Tool Bar is located near the top of the OOB Editor’s Interface, and provides tools useful in moving selected “orgs” and units from one place to another. If you position the cursor over a Tool Bar button a brief description of that button’s function will be displayed after a moment.

Locate your Organizations

The list displayed in the left-hand “Available Units and Organizations” column lists the different organizations available, from Platoons to Corps. You will most likely want to be selecting battalions, regiments, brigades, and/or divisions, depending on your scenario’s size. Each nationality’s organizations are grouped together by organization type.

To see all the units in each organization type for a nationality, click on the box with the “+” to the left of the organization. The “folder” for that organization type will open, displaying all the available different types of organizations, for the selected nationality, of that command level. Allow a few moments for the program to organize all the organizations and units in a nationality’s folder after clicking on that folder to open it.

IMPORTANT: *Divided Ground comes with OOB’s at the Platoon level. We did supply larger HQ’s for building larger scenarios.*

Adding Units to Your OOB

Once you have located the organization you wish to add to your OOB, highlight (select) the org’s name by a single left-clicking on it.



Left-click once on the **Add Unit/Org (Auto)** Tool Bar button to place the org highlighted in the “Created Units and Organizations” column (where all units of your scenarios org will be listed). This will automatically assign a random organizational number(s) to that org if it is battalion-level or higher.



Left-click once on the **Add Unit/Org (User)** Tool Bar button to place the org highlighted in the “Created Units and Organizations” column, which will allow you to assign a specific organizational number to that org (as well as to many of its sub-organizations, if applicable).

Placing Commanders in Your OOB

You can manually add a commander (leader) to any org from company on up. To do so, open that nationality’s “platoon” list on the left side of the screen and scroll down to the bottom of the platoon list until you see the various “commanders”.

Note: A “5” Commander is better than a “1” (one) Commander ; also, if the org you wish to add the Commander to is “motorized”, be **sure** that you add a “mot.” (motorized) Commander type.

What Leader type do I use? Motorized (“mot.” type) Commanders should be used unless the organization he is being added into is a non-motorized formation.

To add the commander to the unit you desire, highlight the commander in the “Available Units and Organizations” column.

-  Then left-click once on the **Add Unit/Org (Auto)** Tool Bar button to add the commander to the “Created Units and Organizations” (right-hand) column.
-  Then left-click on the **Move Unit/Org Up** Tool Bar button as necessary to move the highlighted commander until he is displayed directly beneath the org you wish to incorporate the leader into.
-  Then, with the leader still highlighted, left-click once on the **Lower Unit/Org** Tool Bar button. This will “lower” the commander into the org directly above him.

TIP # 4

DON'T FORGET LEADERS: It is your responsibility to add leaders to your OOB; the org editor will not do this for you. Adding more (and better) leaders to one side or the other is a good way to help balance a scenario, and also to help simulate a side's “resourcefulness”.

Customizing your Organization

If you wish to make your own custom orgs by say, adding in a certain battalion type into a regiment, you can do this similar to adding a commander. To add the unit or org to the org you desire, highlight the unit/org in the “Available Units and Organizations.”

-  Then left-click once on the **Add Unit/Org (Auto)** Tool Bar button to add the unit/org to the “Created Units and Organizations” (right-hand) column.
-  Then left-click on the **Move Unit/Org Up** Tool Bar button as necessary to move the highlighted unit/org up until it is displayed directly *beneath* the org you wish to incorporate it into.
-  Then, with the unit/org still highlighted, left-click once on the **Lower Unit/Org** Tool Bar button. This will “lower” the highlighted unit/org into the org directly above him.

Other OOB Editor Tool Bar Tips

-  To quickly move the selected unit/org all the way to the top of the org it is in, highlight the unit/org and left-click once on the **Unit/Org to Top** Tool Bar button.
-  To delete the selected unit/org from the “Created Units and Organizations” side, highlight the unit/org and left-click once on the **Delete** Tool Bar button.
-  To quickly adjust the morale level of *all* units in an org, highlight that org's name on the “Created Units and Organizations” side, and left-click once on the **Adjust Morale** Tool Bar button. A dialog box will appear. Left-click on the desired number to set the morale of *all* units in the highlighted (selected) org to that level.

Finishing Your Order of Battle and Saving It

Continue adding orgs (for both sides) until the “Created Units and Organizations” column on the right side of the screen contains all of the units/orgs you will need in your scenario.

If you later discover that you did not include a unit or org that you needed for your scenario, you can reopen your org file in this editor and add the unit.

Note: Not all units appearing in an OOB need to be placed in the scenario.

To save the OOB file select **Save** from the File pop-down menu. When the Save As window appears, type in the name you would like to use for your OOB.

Your OOB file will be saved in the *Divided Ground* directory with the extension *.org*.

Once you have completed and saved your OOB you can leave the OOB editor by selecting **Exit** from the File pop-down menu.

The Scenario Editor

Once you have finished the *.map* and *.org* files for your scenario, you can begin to lay out the pieces on the map and define the “parameters” of the contest.

Upon starting the *Divided Ground* Scenario Editor you will be prompted to open one of the preset scenarios already in the game, from the Open dialog. *Unless* you have a scenario already in progress that you wish to continue editing, cancel this command immediately.

WARNING! Although you can edit the pre-set scenarios that come with the game, *it is highly recommended that you do not tamper with any pre-set scenarios*, as this may not only alter how the scenario functions, but it may become unusable, and may also prevent an upgrade from properly working if any of the files of such a “tampered” scenario are being updated by that upgrade. If you do edit a preset scenario (without renaming it through the “Save As” routine) you may need to reinstall the game to have it (or an upgrade) work properly.

Once the Open dialog is closed select **New** from the File pop-down menu to start a new scenario. You will then be prompted to insert the names of the *map* file and the *org* file that you wish to use with the scenario you are creating. In the dialogs that appear, locate the file and click on the **OK** button.

Once the map and org files for the new scenario have been selected the following Header Dialog will appear. In the scenario's **Header Dialog** you define the following:

The **Title** of the scenario is what will be displayed in the Scenarios screen where the scenario to be played is selected.

The **Visibility** value determines the maximum distance in hexes that can be seen during the scenario. The default value is 20.

The **Length** value is the number of turns you want the scenario to run. The default turn length is “10”.

The **First Side** (generally, the attacker) determines which side moves first in each turn.

The **Ammo** value is used to determine the percent chance that a unit will be resupplied if not otherwise resupplied by its HQ. The default value for ammo is 80.

The **Smoke** value determines the number of times smoke can be fired by a side.

The values for **Major Defeat**, **Minor Defeat**, **Minor Victory**, and **Major Victory** determine the victory levels of the scenario. The main program calculates Victory Points (VP) for a battle based on objectives controlled and losses incurred by both sides. If the VPs for the First Side fall below the Major Defeat value, then the First Side receives a Major Defeat for that battle. If the VPs fall between Major Defeat and Minor Defeat, then the First Side receives a Minor Defeat. If the VPs fall between Minor Defeat and Minor Victory, then that battle results in a draw. If the VPs fall between Minor Victory and Major Victory, then the First Side receives a

Minor Victory. If the VPs are greater than Major Victory, then the First Side receives a Major Victory for that battle.

The **AI** values determine the aggressiveness of a side when it is played under the control of the computer. These values range from 100 (most aggressive) to 0 (least aggressive). It is recommended that the army you wish to “attack” be set from about 60 to 100 (100 would be an “all out” attack). The side you want to defend should have a lower AI setting, perhaps 10 to 40. To find the best AI level for your scenario you will probably have to experiment with different settings.

The **Mission Type** dialog can be used to select a “type” of scenario. This will only affect how the AI will perform if one side or the other is AI-controlled.

NOTE: The **Air** value displays the number of Air Attacks available to a side during the scenario. This section is “greyed out” as Air Attacks are now set by selecting “Airplanes...” from the “Scenario” pop-down menu. The dialog that appears lists all Air Attacks available, grouped according to nationality.

TIP # 5

AMMO: Don't forget to consider the ammo levels. In general, you will probably want a value between 70 and 85 (anything less than 70 should probably only be used for a side if it is disorganized, cut-off and/or short on supplies; anything higher than 85 should be used only to represent a side that is especially well-supplied).

TIP # 6

VICTORY LEVELS: Don't forget to put in four different values in each the victory levels boxes of the “Header Dialog” (the default values of “0” just won't do!). Obviously, you will have to weigh the amount and value of the objectives that your scenario has and which objectives you expect the First Side (usually the “attacker”) to capture in order to achieve a minor and major victory. You also need to consider acceptable casualty levels for the attacker, as well as if you intend for your scenario to always be played as the human controlling a certain side vs. the computer (as opposed to balancing it solely for “two player” play). Getting good victory levels will be important for your scenario to be properly balanced, and is easily one of the hardest things to get “just right”.

TIP # 7

AI VALUES: Easily the most commonly overlooked dialog, and quite important for proper AI behavior. These values are set in the scenario “Header Dialog”. The “AI” value for the “attacking” side should be set from about 60 to 90, in general. The higher the value, the more aggressive and “all out” the attack will be. If a scenario has a clear-cut defending side its AI value should probably be set from about 0 to 40. A “0” would represent a “die where you stand” defense. Experiment with different values and watch how the units move and react.

The Conditions Dialog: The Conditions Dialog will then appear so you can establish the environmental conditions for the current scenario.

The **Ground** selections are Normal, Soft and Mud. Ground conditions affect move-

ment during the battle.

The **Field** selections are Normal, Plowed, and None. Normal fields affect line-of-sight and movement, while Plowed fields present no line-of-sight obstacle and only affect movement.

TIP # 8

CONDITIONS: Be sure to set the environmental “Conditions” (available from the “Scenario” pop-down menu) to conditions that are “logical”.

Description Dialog: The Description Dialog is used to enter a description of the scenario, the author's name, and the date.

Note: If you want your scenario to have a unique picture (one that will be displayed whenever your scenario's title is selected in the Scenarios screen) you can insert a graphic file with the exact same name as your scenario and a **.bmp** extension into the *Divided Ground* directory.

Example: If your scenario's file name is Lvov.scn, the title of the graphic should be Lvov.bmp. The dimensions of the picture you select should be 256 pixels wide by 125 pixels high, **and** the graphic should be saved as a Black and White or 256-color bmp-type file, in order for it to display properly.

Picking out Air Attacks

Air Attacks are set by selecting **Airplanes...** from the “Scenario” pop-down menu. The dialog that appears lists all Air Attacks available, grouped according to nationality. Most nationalities have several Air Attack types to choose from. To add an Air Attack, select the desired type then press the **Add** button to add one Air Attack of that type for that nationality.

Forces Dialog: The Forces Dialog is used to place units on the map or to add them in the form of reinforcements.

The Forces Dialog lists the units of the “org” file that was selected for the scenario, and contains all available units for a scenario. As units are placed on the map they are removed from the units displayed in the Forces Dialog. If a unit that has been placed on the map is deleted, it is automatically added back into the list of available units in the Forces Dialog.

If the Forces Dialog is closed, you can reopen it by selecting **Forces Dialog** from the Units pop-down menu.

Placing Units on the Map

To start placing the units for your scenario on the map, find the unit you want in the Forces Dialog. With the specific unit highlighted in the Forces Dialog (i.e., not an organization, but the actual platoon-unit), **right click** on the hex you wish to place it in. Once that unit is placed, the next unit in the Forces Dialog will be highlighted and automatically selected. Continue to place units until you are satisfied with the units on the map. Not all the units in the Forces Dialog need to be placed in the scenario.



You can use the “Turn (counter)clockwise” Tool Bar buttons to adjust the facing of the unit. Once the facing is set for one unit, all subsequently placed units will have that facing, until the facing is changed again. To see a unit’s facing, you will need to view the 3D icon, either on one of the 3D map displays, or by checking the icon shown in its Info Box.

Placing Off-Board Artillery

Occasionally you may wish to place an artillery unit off-map to represent a battery far removed from the field of battle.

To place an artillery unit “off-board”, you must first locate and select the unit in the Force Dialog. (Do *not* place the unit on the map.) Once you have the artillery unit thusly highlighted, from the “Settings” pop-down dialog select **Add Off-Board Artillery...** A dialog box will appear.

There are two ways that you can define the location of an off-board artillery unit:

- 1) Left-click in any “blank” area surrounding the miniature map displayed in this dialog box. Note that as you click, the “x, y” coordinates displayed in the small windows in the lower left will change.
- 2) You can also type in the desired “x, y” in the “Hex Coordinates” boxes. Note that you can get long-range artillery (such as naval guns) much farther away using this latter method.

When you are satisfied with the selected location, press the **OK** button.

Placing Reinforcements

If you wish to have some units enter as reinforcements during the scenario, you must place them in the hex you wish them to enter (which should be along the edge of the map). Once the units are placed, select the unit(s) by double clicking on it, then select **Add Reinforcements** from the “Settings” pop-down menu. The Reinforcement Dialog will then appear in which you can set the turn number of the unit’s arrival and the percent chance that the unit will arrive at that time.

Note 1: If unit facing is important to you, you will also want to have the reinforcing units facing the proper way before you remove them from the map via the reinforcement process.

Note 2: When selecting transports to arrive with their passengers as reinforcements, you should ensure that the passengers are loaded on their respective transport before you remove them from the map via the reinforcement process.



The Scenario Editor Tool Bar

The scenario editor’s Tool Bar allows you to set different types of hex fortifications, place pontoon bridges, set your Objective hexes, and adjust the status (Fixed, Fatigued, reduced-SP, etc.) of units. Holding your cursor over a Tool Bar button will display a brief description of that button.

Adjusting your Placed Units

After you have placed your units on the map (or while you are placing the units) you

can use the Tool Bar to alter various conditions of the selected unit. You can set up a unit as fixed, fatigued or disrupted, and adjust its starting Action Points, Morale or Strength. You can also rotate or remove units using different Tool Bar buttons.

To adjust the values or the status of a unit you must select the unit by double clicking on it. You can then use the proper Tool Bar button to adjust the desired value or status.

Note: Though you can adjust Action Points, Morale and Strength they can never go above the nominal level set in the .org file.

If you want to have one or more of the organizations in your scenario begin “Fixed” (so that units of it cannot move until fired on or released), you may want to set when that org will be released during the scenario. To set up the release time of an org, select **Add Release** from the “Settings” pop-down menu. This will open the Add Release dialog. Using this dialog, you can select the individual unit or organization, and set the turn of its release. Highlight the unit or org you want to release in the Add Release Dialog, then input which turn it will be released, as well as the percent probability that it will be released at that time. You can check or delete a release you have set using **View/Delete Releases** from the Settings pop-down menu.

Setting Objective Hexes



Each scenario must have objectives for the opposing units to try and capture or defend and/or to exit from. To set up an objective hex, left click on the hex that you wish to give an objective value to. Click on the Objective Tool Bar button to bring up the Objective Dialog. Select which side currently controls the hex and set the point value for the hex. Selecting a point value of zero, or setting the controlling side to “None”, will cancel the objective hex.

To create an *Exit Objective Hex* select a hex on the map edge and assign it to the side you wish to have exit from that point. Then define the point value for the objective as **-1**. Each unit of the side corresponding to the color of the objective that exits from that hex during the scenario will add its VP value to that side’s Objective Points for the scenario. Note that the value of a unit of the “Second Side” *exited from an Exit Objective Hex* for its side has its VP value subtracted from the First Side’s Objective Point total.

Saving the Scenario

When you have completed your scenario save it by selecting **Save** from the File pop-down menu. When the Save As window appears, type in the name you would like to use for your scenario.

Note: It is a good idea to save your map file, your order of battle file, and your scenario file, all with the same name. The computer will automatically add the proper extension. For example, if you are creating a Lvov scenario, save your map as Lvov.map, your order of battle as Lvov.org and your scenario file as Lvov.scn.

Your scenario file will be saved in the *Divided Ground* directory with the extension .scn.

Once you have completed and saved your scenario you can leave the scenario editor by selecting **Exit** from the “File” pop-down menu and open the file in the game. In the Scenarios screen, look for the title you input in the Header dialog.

Important: When building a Desert scenario and you wish to lay “make” an Anti-Tank Ditch please follow the below instructions.

1. Open the Map editor.
2. Once open select the Gully button.
3. Place the Gully on the map.
4. Using the 2D mode map click on the escarpment button
5. Locate your Gully you just placed on the map.
6. Place the escarpment on the Gully, you will notice a very large image different then if you were lay a normal escarpment.
7. At this point your Anti-Tank Ditch has been completed.
8. You will want to Label the new Anti-Tank Ditch so players will know where they are if they did not look over the 2D map before playing.

V. Campaign Games

In a **Linked Campaign Game** (LCG) the side you play and the organization you control is predetermined. You command that organization, and all of its inherent units, through a series of exciting, historically linked pre-designed scenarios. Your level of victory in each scenario will determine the scenario you play next in that LCG. Your success in the LCG will determine *how many* scenarios you play, as well as *what* scenarios you play.

There are a variety of campaign games to choose from, each of different length and at differing periods of time. To start a new (or to resume an existing) campaign game of *either* type, select **Play Campaign** from the Main Menu screen.

The Campaign Commanders Screen

At the Campaign Commanders Screen you can choose to start a new campaign of either type, resume a current campaign, or delete an old campaign game that you no longer wish to use.

If you wish to start a new campaign, press the **Begin New** button and you will be taken to the New Campaign screen.

The New Campaign Screen

Nationality: The nationality you play is predetermined.

Command Level: An LCG level is predetermined (usually a battalion).

Campaign Game: As a different campaign game is highlighted (use the up/down scroll arrows to the right of the list) the features of the highlighted game are listed in the various windows: the campaign's historical background, the nationalities involved, the date span of the game, and the sector.

Press the **OK** button once you are satisfied with your selections.

The Mission Screen

Before each *new* campaign mission begins, you will see the Mission screen displaying a map and a mission statement outlining the general purpose of your next scenario. The location of the encounter is pin-pointed by a red and yellow dot on the map.

The Campaign Mission

Experience Points: During a campaign game mission your units gain "Experience Points" based on "kills" of enemy units and your character's overall performance in the mission. If a combat unit accumulates enough Experience Points its morale will increase. When this morale increase occurs, the unit's accumulated Experience Points are reduced by the amount of Experience Points necessary to reach its current level.

Winning: Victory in a LCG mission is determined in much the same manner as victory in a regular, "set piece" scenario.

Exception: The "Save As" function is disabled when playing a campaign game, and the *game saves automatically whenever you exit*. You do not need to save.

Replacements

Your command will occasionally receive "replacements" in the form of Strength Points. In an LCG you can potentially receive replacements before each CG scenario. Replacement SP can be assigned to any platoon of your "core" OOB which is currently not at full strength. Note that as replacements are added to a platoon the "morale" of the platoon may decrease. This simulates the absorption of "new", less-experienced troops by your more-veteran core unit.

VII. Multi-player Modes

Divided Ground has a variety of multi-player modes that can be used for “head to head” contests with other *Divided Ground* aficionados. All multi-player game modes require that both players have the *Divided Ground* CD in the drive for each computer.

MODEM CONNECTIONS

Internet, Modem and Serial (Null Modem) connections are all started as Modem games. You can either begin the game as the Modem Host or the Modem Caller.

INTERNET TCP/IP PLAY

Prior to beginning an Internet game, the Host Player should ensure that he has a valid TCP/IP connection established on his computer. Typically this is a service of your Internet Service Provider.

Multi-player *Divided Ground*: *Divided Ground* supports internet or network games of up to 16 players! The quality of play will depend several things, including how heavy internet traffic is at the time, the quality of each participant's service provider, and the speed of each player's computer. You may want to experiment with letting different players “host” the game to find the best quality of play.

Once connected, you will need to run winipcfg.exe from your Windows® directory to find out your current Internet address. The easiest way to do this is at the Run command in the Windows 95/98® StartMenu. Type **C:\windows\winipcfg.exe**

You will be looking for the IP address. **Note:** Typically, this address is changed by your Internet Service Provider each time an Internet Connection is established.

The Modem Host player should then provide the Modem Caller player(s) with the IP address prior to launching Campaign Series. This can be done by calling the Caller on a separate line, by sending the address through E-Mail, or by using an Internet “Chat” program.

1. Select **Play a Scenario** from the **Main Menu** screen.
2. Select the **Modem** option from the **Scenario Type** Screen.
3. The Modem Host should select a new scenario or resume a previously saved game.
4. The Host, when prompted for the type of Direct Play connection, should choose Internet Connection.
5. The Caller(s) should connect and provide the appropriate IP address when prompted.
6. At this point, both players will have a Communication Dialog and play will start or continue similar to a standard game.

Connecting to an Internet Session of Divided Ground

Once you have the host's “IP” address launch *Divided Ground*. From the Main Menu screen select “Play Scenario”. When the Scenario Type screen appears select “Modem Caller” the select “Start New Game”. When the Scenarios screen appears select any scenario (we suggest a low-complexity one) and press the **OK** button. The actual scenario selected does not matter, as the *host* loads the scenario. The host should also inform you if he wants you to enter the game on his side, or on the other (non-host) side.

When the “Player Dialog” appears type in your name or nickname. Here is also where you choose to play on the same side as the host or not.

Next you'll see the “Connection Dialog”. Select “Internet TCP/IP Connection for Direct Play”, then press **OK**.

Next the “Locate Session” dialog appears. This is where you type in the IP address of the host. Then press **OK** and the program will try to connect to that IP address. This usually happens flawlessly, but, if not, keep trying a few times. If you get a “no valid sessions” message, perhaps the host got knocked off-line and had to establish a new IP address by re-logging on. Perhaps check your e-mail or Internet chat again for a new IP address.

If you're playing a multi-player game, you will want to open the “Multi-player dialog” from the “Special” pop-down menu. Once the game is up, you can chat with the other players in the “Comm Dialog”. If playing a multi-player game check the “Send to my side only” before sending the if you want only players of your side to see the message.

Multi-player Comm Dialog: When playing a multi-player game you can prevent the messages that you type in the Comm Dialog from being seen by players on the other side by checking the “Send to my side only” box located at the bottom of the Comm Dialog (check this before you press the **Enter** key to send the message).

To send a “global” message to all players in the game, simply uncheck this box before pressing the Enter key.

Multi-player Timed Game: The Host player in a live multi-player game has the option to use **Set Network Play Timer** from the **Special** pop-down menu to input a time, in minutes, that will be used by the program to automatically end each turn. This time can be reset at any time, but only by the Host. If the time is reset, a message is displayed to all other players of the new time that has been set.



Timer Warning Light: When playing a multi-player game using the timed play option (see above), a colored “light” appears in the lower right-hand corner of the status bar (just to the left of the hex coordinate numbers). When a green light appears here it's your side's turn. When the green light changes to yellow it is a warning that your side now has less than one minute until the turn ends. When this light is red it is the other side's turn. When the red light turns orange, it is simply warning you that the enemy now has less than one minute remaining to finish their turn.

The Multi-Player Dialog: This dialog can be accessed from the “Special” pop-down menu, and is only useful in games with more than two players. The dialog is divided into a top half and bottom half. Note that the “Captain” of each side is always listed in bold at the top of the player list for that side. The “host” is always the Captain of his side.

Along the bottom of this dialog are four buttons. Each of these buttons is used by selecting (clicking on) a player's name and then clicking the button. The functions of these buttons, and who can use them, follows:

The **Assign** button is used to assign an organization to the selected player. Only the Captain of a side may use the Assign button.

The **Deassign** button is used to take the command of an organization away from the selected player. Only the captain of a side may use the Deassign button.

The **Promote** button is used to assign a new “Captain” to a side. Only the “host” may use the Promote button.

The **Switch** button is used to change the nationality (side) of a player. Only the “host” may use the Promote button.

Scroll to View Enemy Action has also been added to the “Special” menu. This is “off” by default in order to speed up game play. With this enabled, during a multi-player game (only) the computer will scroll the map to display visible enemy actions.

NETWORK IPX PLAY

You can use this connection to play over a Local Area Network (LAN).

The Modem Host will begin a game and choose the scenario to be played. When prompted he will be asked which type of connection will be used, choose IPX play.

The Modem Caller will start the game and choose Modem Caller. When prompted he will also select IPX play and when prompted select the Divided Ground game.

Note that all multi-player features discussed above in the “Internet TCP/IP Play” section (i.e., multi-player Comm Dialog and Timed Game) are also available during a multi-player “LAN” game.

MODEM AND SERIAL CONNECTION PLAY

You can use this connection to play over a modem or by a direct serial connection (also known as a null modem).

The Modem Host will begin a game and choose the scenario to be played. He will be prompted for which type of connection will be used during play. Choose the appropriate connection and enter the necessary settings.

The Modem Caller will start the game and choose Modem Caller. When prompted he will also select the type of connection you have and enter the appropriate settings or phone numbers.

TWO-PLAYER HOT-SEAT

If you have a local opponent who doesn't have a computer or you want to play on the same computer, you can use the Two-Player Hot-Seat option. Note that Fog of War is *automatically* in effect for both sides.

To begin a Hot-Seat game follow the same procedure as beginning a regular scenario, except when you are in the **Scenario Type** screen choose **Two-Player Hot-Seat**.

Once the scenario begins, the person playing the First Side will be prompted to begin his turn. When that player has completed his turn, click the Next Turn button. The map

will clear, and the other player will be prompted to begin his turn. Continue in this manner until the game is completed, or you need to break and save the game. **Note:** *Two-Player Hot-Seat saved game files are saved with the extension .btt.*

PLAY BY E-MAIL

To Start a PBEM Game...

1. Select the **Play Scenario** option from the **Main Menu** Screen.
2. When the **Scenario Type** screen appears, ensure that the **Play-by-E-Mail** option is selected, then click on the **Start a New Game** button.
3. The **Scenario** Screen will then appear. Choose the scenario to be played.
4. When the map appears, choose the local side (i.e., the side *you* will play) and whether or not Fog of War will be used. You can also set the Advantage and Optional Rules at this point (note that once a PBEM game has begun, the Optional Rules & FoW settings cannot be altered). Then select **OK**, and proceed with play.
5. When finished with your turn be *sure* to press the **End Turn** Tool Bar button (or select **Next** from the “Turn” pop-down menu). You will then see a message that local control is over. You will be prompted to save the game (note that it must retain a “.bte” extension) and E-mail the saved-game file to your opponent (veteran PBEM gamers usually “zip up” the file to protect the data.). You will then be prompted to enter an “Encryption Key” (i.e., a password). If you elect to input a password be sure to remember it, as it will be necessary to input this before you can start your next turn. Keep the password simple; it is wise to use the same password for all on-going PBEM files.

Be sure to end your turn! Not ending your turn, and then sending that file to your opponent, is the *most common* PBEM error.

To Resume a PBEM Game...

1. To resume a Play By E-mail game, you must download the file into the Divided Ground directory.
2. Then launch *Divided Ground*.
3. Select the **Play Scenario** option from the **Main Menu** Screen.
4. When the **Scenario Type** screen appears, ensure that the **Play-by-E-Mail** option is selected, then click on the **Resume Saved Game** button.
5. When the **Scenarios** screen appears, select the file you wish to resume and click **OK**.
6. After the map and scenario are loaded and you have input your password, you will be given an option to see a “Replay” of your opponent's most recent moves/attacks. After the Replay is finished (or if you choose not to view it), the next phase begins and play resumes. At the end of local control, a prompt to E-mail the file will appear.

The same procedure is followed to play the remainder of the game, with each player alternately playing and E-mailing his turns to his opponent.

Passwords can be used with PBEM games. The whole purpose of the password protection in *Divided Ground* is not to prevent cheating *per se*, but to prevent your opponent from *accidentally* opening your game file in the wrong phase and thus spoiling the Fog-of-

War effect by seeing the position of your hidden units. Passwords are for honest players and are not meant to stop cheating. There are some people out there who are going to cheat, but by and large, I've found that the vast majority of wargamers are honest.

Keep your password simple. This is not your bank account or your company secrets that are being guarded here. Use common words that are before your eyes or so easy to spell as to be difficult to forget. Avoid complex names using special characters and shifts in case from capital letters to lowercase. Here are some examples of my favorites: as I look around my office I see the words "monitor" and "laserjet". I see "pocket" and "oxford". I drive a "van". Use your dog or cat's name, perhaps. Anything you won't easily forget.

Use a compression utility and **always** "zip" (compress) your files, even if they are not big. Compressing the file adds a little time to the PBEM process, but it saves tons of lost time. Compression utilities can be found as shareware on many sites around the Internet. You will certainly find something at: **www.winzip.com**

Compressing (i.e., "zipping") the game file has two purposes:

- 1) It reduces file corruption when the file is being sent across the many miles that typically separate you from your opponent. I will not go into the technical details, but it is like "rolling up a map before you step out into the wind" – there is much less chance the map will be ripped away by the wind if it's properly rolled up.
- 2) When sending and receiving files by email using many different types of email programs, ZIP files are usually handled in a consistent manner that can be handled by the person receiving the file.

For example, I have been sent files that were not zipped and they are sometimes appended to the end of the email message. In these cases, it is possible but difficult to copy the entire message into an editor and remove the unwanted parts – but you have to be very careful and know what data's important and what's "excess". Miss a *single* character and the file will not work properly. "Error opening file" is not a message you want to see!

Any email message that includes a game file should have the word "GAME FILE" in the subject line of the email. Some people like to chat and exchange email messages, either game comments or other news with their opponents. Sometimes they attach the file. But sometimes they *think* they attached the file, and never mention the game in the message. The result can easily be several lost days while the person who "thought" he sent the file (and didn't) waits for the person who doesn't have the file to return it.

If you are chatting with the person you are playing, be careful to remove the "GAME FILE" word from the subject line if your message does *not* contain the file. When in doubt ask! It only takes a second and might avoid days in lost gaming.

Make yourself a backup copy of your game *before* you press the "END PHASE" button and get the file ready to send. What I recommend is that you do a **FILE | SAVE AS...** view.bte – then "SAVE AS" again – back to the GAME FILE name. This does two things:

- 1) It allows you to look at and ponder the situation while you wait for your opponent to respond (it could be days and you may wish to look at the situation map), and...
- 2) It gives you a backup. If the file does become corrupted during the transfer and your opponent can't open it at his end for whatever reason, you merely open that file, then SAVE AS - Game file - END PHASE - ZIP and resend it to him. You'd be surprised how many games have been saved that way.

Finally, *always* press the "END PHASE" button before you send the file. Sounds simple but you'd be surprised how often it is forgotten. Simply by rushing to send out the file and get on with the game you are more likely to cause delays. And that is a fact proven over many matches.

In the event that you *do* have a problem with a PBEM game, reading a file or getting an error, here is what is recommended. **1)** Try checking your password **2)** Completely shutting down your PC and "cold start" it (that has opened 3 or 4 file that would co-operate) **3)** if #1 & #2 fail, then ask your opponent to check and make sure he remembered to END PHASE. These three simple things correct 98% of the PBEM problems.

Campaign Series FAQ

Q.) How can I find anything in this FAQ?

A. For your convenience, the Campaign Series Frequently-asked-Questions is divided into logical sections: it's

- General Game Parameter
- Game Mechanic
- Combat
- HQs, Supply & Leaders
- Tactics
- Air and Artillery
- Campaign Game
- The Editors
- Miscellaneous
- Hardware & Operating System

General Game Parameters

1) What am I supposed to do in a scenario?

A. First, the scenario description at the start, and also available from the Status menu provides some indication of the forces involved, where it took place and what is expected of your side. But it is often only a hint however. Look at the map. The 2D Zoom-out View is useful for this. The size of the map (length and width) can provide an indication of how fluid the scenario might be, but can also be misleading. Most importantly, note the objective hexes. Their location indicates where you are expected to drive your forces (or what features it is important to defend). The victory point assignment of each objective also provides information on relative importance of various objectives. The final piece of information is the victory point levels. Compare them against the total points of the objective hexes. Victory is determined by destroying as many enemy forces as possible while preserving your forces, while capturing as many of the objectives within the time frame allowed.

2) What is the game scale?

A. The game scale is six minutes per turn and 250 meters per hex. Each strength point (SP) of an infantry platoon represents a half squad (thus, 6 SP represents a platoon of three squads). Each SP of a Machine Gun platoon represents one MG "team" (and, thus, one MG); each SP of a gun (i.e., gun, mortar, or howitzer) battery represents one gun and its attendant crew; each SP of a vehicular platoon (regardless of type) represents one vehicle and its crew. Crews and guns are considered the same units for game play purposes.

3) Does the game have any "Zones of Control"?

A. No. This is a game where zones of control do not come into play.

4) Does it matter which way my units are facing?

A. By default there is no unit facing effect in the game. In the Optional Rules you can select Armor Facing Effects if you desire, in which case the facing of armored units (only) becomes a concern. Facing never plays any effect for non-armored units. The Armor Facing Effects optional rule is best suited for Human vs. Human games.

5) How can I tell what the terrain type of a hex is?

A. If you press the U hot key (on the keyboard) it will bring up the Unit List on the left side of the screen. This displays many pieces of game information with the name of the

terrain type and the elevation at the top. Consult the on-line Parameter Data by pressing F2 for more information on the effects of terrain on combat and morale.

6) I can see the "full hex" terrain listed in the Unit List, and in the Parameter data I see hexside terrain features. How do I find locate these hexside features on the game map?

A. Info on identifying the hexside terrain features are not shown in the Unit list or other places. View the map in "3D Normal View" for your best look at these features. Then consult the Terrain Types section of this Players Guide. Compare the image on your screen to the image in the manual. There is also a photo and a description of the hexside feature. It won't be long before you will be able to see the difference between a mere low stone wall and a high wall.

7) What is the complexity of a scenario?

A. The complexity of a scenario is based on the number of units in the scenario (counting units that start on the map and all units potentially available as reinforcements).

Game Mechanics

1) How can I make my foot soldiers move faster? Can I order my men to run?

A. All non-motorized units can take advantage of "Double Time". Select the unit and press the "Double Time" button (or, with the unit selected, select "Double Time" from the Unit pop-down menu). The unit's move will be extended as it will pay only 3/4ths of the normal AP cost to enter a hex. Many gamers will toggle on the "Reachable Hexes" (the H hot key) to see the extra distance gained by double-timing.

2) What are the effects of fatigued units and how do they recover from fatigue?

A. Marking a unit to use "double time" automatically causes the unit to become fatigued. A unit that begins its turn "fatigued" can not use double time (essentially, a unit can double time only once every two turns). A Fatigued unit has its Attack Strength halved. There are no ill effects against a fatigued unit that is fired upon. A unit automatically recovers from fatigue at the start of a turn in which that unit did not use double time during the previous turn.

3) How do I load and unload units?

A. You can select the unit and the carrier and then use the Load/Unload Units Tool Bar button. You must have enough Action Points to perform this action. The AP cost will vary depending upon the passenger unit. Infantry units normally cost 25 AP to Load or Unload (Engineers cost 50 to load/unload), while Artillery units usually cost 50 AR

4) I cannot load my units, even though both the transport unit (e.g., truck, wagon or other) and my passenger (infantry or artillery unit) have plenty of AP's. Why?

A. There could be several causes. The message on the status bar (bottom of the screen) will indicate the reason why the loading isn't executed. Here are some possibilities:

- a) Both the carrier *and* passenger units need sufficient AP's to execute the loading. The loading costs vary by unit type.
- b) If the *carrying* unit has fewer strength points than the *passenger* it will be unable to load that unit. Basically, you're short on transport.
- c) There might be a problem with what you're trying to load onto. For instance, you can't pull guns with a tank. Two, infantry can't ride on most "light tanks" or "tankettes".
- d) Some larger artillery batteries are not allowed to be pulled by wagons.

5) I want to use the "Extreme FOW" Optional Rule, but when I do, I cannot see what

the enemy units' names are. I want to know exactly *what* I'm fighting without knowing the units' values. what can I do?

A. In this case, there is no middle ground that allows you to see the names (types) of the enemy unit but not their SP and assault odds. The best option is to play using Extreme FOW, but before you shoot carefully examine the list of killed enemy units (choose "Strength" from the "Display" pop-down menu). Then shoot; if you kill a SP, examine the "Strength" list again to see what has changed. Before too long you will get an idea of what 3D icon represents what unit. Just like a veteran commander, as you gain more experience on the battlefield you will be able to correctly identify more enemy unit types.

6) How do engineers clear minefields or "block" hexes?

A. Move the engineer unit into the minefield/block hex during its turn. Each turn an engineer unit *begins* its turn undisrupted and in a minefield/block hex, it will automatically lower the strength of the minefield by one, or remove the block obstacle.

7) How can I have units move boats or rafts to the water?

A. First get the unit into the *same* hex as the boat/raft. Then select *both* units and use the Load/Unload button to have them "carry" the boat. The boat/raft must have SP at least as great as the SP of the unit. Move the unit toward, and into, the water.

8) Can morale be recovered?

A. At the start of each turn each non-disrupted unit with a morale level lower than its "at start" (nominal) morale will make a Morale Check. If it passes this check, it recovers morale. *Hint: Placing a leader that commands a unit in the same hex with that unit will boost its morale, hence making it more likely to pass its morale check and thus recover morale. A unit with its morale being "boosted" by a "same-organization" leader has its morale value displayed in red.*

9) What does the range graph obtainable when unit data is accessed via F2 actually represent ?

A. This graphically represents the units hard (red) and soft (blue) attack factors at various ranges. The number shown along the "y" (vertical) axis

10) How can I view the names of the villages and other points of interests during a scenario?

A. Press and hold the **SHIFT** key in any map view mode. This will turn on the map labels. However not all the villages have place name labels.

11) How is smoke utilized in the game and how do I deploy smoke? Can smoke be utilized from historically smoke capable tanks and other AFVs or units like engineers?

Smoke can only be fired by smoke capable units. This include some artillery units and engineers, as seen by the smoke icon on the unit info box. However, a unit not only has to be smoke capable, the side must have available smoke ammo, as indicated on the status bar (bottom of the screen) or in the Unit Window.

Combat

1) When I combine units for Direct Fire, do the units combine their attack strengths for improved odds?

A. No. All units fire individually, with a number of attack dice rolls equal to the SP of the units (halved if low-supply, etc.).

2) Sometimes, when combining units to fire, not all units seem to expend their AP's

when the firing is concluded. Why?

A. If the target unit retreats or is eliminated due to fire from the first unit(s) to attack, still-unfired unit(s) don't expend AP's shooting at a target that no longer exists (or has relocated). In a group of firing units, the units' fire order is determined by their (2D-map) stacking order, with highest units firing first.

3) I see two sets of odds when performing an assault. What do they mean?

A. The first set is the odds of the attacker vs. the defender. The second set is the counter-attack of the defender vs. the attacker. The higher the assault odds, the greater chance the attack will be successful.

4) Why does it seem that my disrupted units never become undisrupted?

A. A unit is not eligible to lose its disrupted status until it *begins* its turn at full morale. Thus, a unit has to first recover any lost *morale* (frequently caused by being forced to retreat or even as an adverse combat result). Once a disrupted unit starts its turn at full morale it is eligible to lose disruption (by simply making a "10-sided" die roll equal to or less than its morale level).

5) Can you specifically target the passengers or riders on a transport unit, such as the riders on a platoon of tanks?

A. No. Your fire is at the *carrying* unit. However; if the carrying unit is damaged, the passengers will also frequently incur damage. There is an exception: you *can* fire at riders on a platoon of tanks with a unit not normally capable of firing at a hard target (i.e., with infantry-type weapons) at greater than one hex range. If so, the tank riders are the only target that can be affected. Riders on tanks are very vulnerable to fire and do not receive protection from the tanks.

6) When the Optional Rule for "Armor Facing Effects" is "on", which defense factor is used by an armored ("hard") unit defending in (counter)assaults?

A. The "armor facing" defense values apply only to direct fire; the standard defense value (as shown in the unit info box) is always used when defending in (counter)assaults.

HQs, Supply and Leaders

1) How does supply and ammo work and effect my units?

A. A Low-Ammo combat unit that attacks using Direct Fire will only attack a number of times equal to its SP divided by two, fractions rounded up (keep in mind that such a unit normally is allowed a number of attacks equal to the number of SP it has). A Low-Ammo Indirect Fire unit cannot attack (this represents that battery not receiving proper fire orders, a breakdown in communications, or perhaps its being used to support other units in a nearby battle). A Low-Ammo HQ is unable to provide supply to other units under its command (HQ or normal combat units). Note that normal units are never *out* of supply; a unit affected "Low Ammo" can still attack, albeit at reduced effectiveness (exception: Indirect Fire units).

2) How do Headquarters (HQ's) provide supply?

A. At the start of each friendly turn, a "supply check" is made for each friendly unit that fired in the preceding turn. This first supply check is made using the unit's "parent" HQ. If that check fails, another check is made against the base supply level. The closer the unit is to its "parent" HQ, the greater the chance that the first supply check will be successful – from 100% if the unit is stacked with its HQ, to 50% out at the "range" shown by pressing the **W** hot key while the HQ is highlighted. Beyond the 50% range the chance of re-supply continues drops off. If this "percentile" die roll fails, then a second percentile die roll is made using that side's "Ammo" level (seen on the Unit List, press the U hot key dis-

play this value); if this second die roll is equal to or less than the friendly Ammo level the unit does not run low on supply for that turn.

Note: An HQ is automatically “low on supply” on any turn after it has moved (representing it being out of communications for a period). Furthermore, each HQ also does a supply check at the start of its turn, failure of which will result in it being “Low on Supply”.

3) When I have a commander unit in a hex with several units under his command, and all units perform direct fire, do all firing units automatically benefit from his command rating?

A. The commander will automatically expend AP’s to support the “first” unit conducting direct fire; the “first” unit is the unit “highest” up in the stack (on the 2D map; also the “highest” one depicted in the Unit List) of the firing units. The AP expenditure of the commander will be equal to the AP Fire Cost of the firing unit. **Note:** If you do not want an eligible commander to support the direct fire attack when a unit under his command in his location fires, you will have to move the commander out of the hex prior to the attack.

Tactics

1) What are the morale implications of fortifications and terrain?

A. The morale of units in an Improved Position (IP) is improved by 1; if in a trench it is increased 2; a unit in a bunkers or pillbox location has its morale increased by 4. Morale is also modified by terrain. This affects a unit’s chance of retreat (a positive modifier increases the morale of a unit, thus reducing the chance of retreat due to morale check failure). Note that the morale modifier of a fortification is cumulative with the morale modifier of the terrain in that same hex. Furthermore, a unit in a bunker or pillbox never retreats; it is disrupted instead; if already disrupted there is no further effect.

2) Sometimes, during an assault, I see the message “Units Captured”. Is there a victory point bonus for capturing a unit instead of killing it?

A. No. The only “bonus” is that there are no “survivors” that have retreated out of the assaulted hex that have “lived to fight again another day”. The “captured” result occurs most frequently when the assaulting units are attacked from “surrounding” directions.

3) Do engineers improve combat odds in firing or assaults?

A. No. However, engineers have a higher assault value *and* a higher anti-tank attack factor than normal “rifle platoons” of the same nationality, representing their close-range flamethrowers and demolition charges. Engineers also have an increased chance of constructing Improved Positions. For this same reason, engineer infantry move slower (pay a higher AP cost to enter terrain) than non-engineer infantry.

4) How can I set up an ambush?

A. *Campaign Series* introduced single-unit (i.e., individual) settings for Opportunity Fire (OpFire). With this game enhancement, when you set OpFire and have a unit or stack selected, only the selected unit(s) is affected. **Note:** *The most restrictive OpFire option set for a unit takes precedence; e.g., a globally-set option for a unit type to fire at “short” range will take precedence over an individually-set option for an individual unit of that type to fire at “medium” range.*

5) If I use the “Save AP’s for Opportunity Fire” button do I receive a benefit?

A. No. Whether you use this button (during your unit’s move to ensure you save enough AP to allow it to fire) or whether you save APs without using the button makes no difference. Having this “on” for a unit as it moves simply ensures that the moving unit will still have enough AP remaining at the end of its move to fire once – whether in your “friend-

ly” turn, or during the enemy’s turn as opportunity fire.

6) Will I have a better chance at a shot or a first shot if I save *double* the Action Points for Opportunity Fire?

A. Your odds will be the same, however, your unit might get to fire twice, thus increasing its potential effectiveness.

7) Most infantry units can only fire at hard targets at a range of one hex. At the same range the units can assault. What are the advantages and disadvantages of each?

A. You have to examine the characteristics of your infantry units to see which is better – the assault value or the 1-hex direct fire hard attack factor. Each can vary markedly from one type to another, and also vary due to date (generally, the 1-hex hard attack factor increases as the war goes on). You will find that engineer infantry always have a good anti-tank capability regardless of date, reflecting satchel charges and similar weapons that they carried. Other units, such as a submachinegun platoon, also have adequate anti-armor capabilities – as well as a high assault value. Whether you should assault or direct fire can also depend on the tactical situation. Assault may cause more damage, particularly if units assault from different directions. But there is even a possibility that the assaulters can become disrupted or incur casualties – even on an otherwise successful assault! Also, a successful assault will end up with the assaulting unit(s) occupying the assaulted hex; if they had been in good terrain (e.g., factory, trenches, bunker) before, this could increase their risk. Direct fire carries less risk.

Air & Artillery

1) Does indirect fire have to be plotted at the start of a turn (since it takes effect at the start of the next turn)?

A. No. Indirect fire can be plotted at any time during your turn. In fact, it is probably best to wait until the *end* of your turn (after you have moved and fired most of your units) to plot indirect fire. By plotting indirect fire at the end of your turn you reduce the risk of “friendly fire” since you will be less likely to plot artillery into a hex now occupied by a friendly unit.

2) Why don’t air attacks always arrive next turn or attack the intended target?

A. Tactical air support doesn’t always arrive immediately. Planes may not have been in the vicinity to respond to the request, or they might be delayed (even temporarily). They might also have been bounced by an enemy air patrol. So having air support arrive later, or even not at all, reflects a more fluid battlefield situation. Even if air support does arrive, it might not attack the intended target.

Campaign Game

1) Can you play an LCG scenario head to head?

A. No – at least not within the campaign format. You can open up an LCG scenario outside of the campaign system by making a duplicate copy of an SCL file (an LCG’s scenario file), then changing the “extension” type from “SCL” to “SCN”; e.g., make a copy of “3-116LCG_1.SCL” and rename it as “3-116LCG_1.SCN”. However, doing this will probably “spoil” some of the fun of playing an LCG (but may also be the only way you will see some of the specially-crafted LCG scenarios).

3) Will my command get “upgrades” during an LCG?

A. No. For instance, most LCG will only be for a short campaign – maybe 2 or 3 weeks, perhaps several months. Upgrades usually won’t be necessary; if they are, the designer has taken care of this and adjusted the “core” OOB to reflect upgrades.

Miscellaneous

1) How can I take a snapshot of the battlefield like I can in the “Battleground” series of games?

A. Pressing the “Print Scrn” key (along the top row of most keyboards) captures the current screen image to your computer’s memory. Then, open **PAINT** from Window’s “Accessories” menu (or whatever graphics program you prefer), and from the “Edit” menu, select “Paste”. This will put a copy of the image captured in the first step onto the screen of this application where it can be printed. You’ll probably want to turn off the Unit List (hot key **U**) and the Menu bar (hot key **M**) for the biggest possible image area.

2) How can I delete old saved-game files? I cannot find a “delete old game” button anywhere.

A. There is not a button to delete an old, non-Campaign Game saved-game file. There are two not-too-difficult ways of doing deleting saved game files, however...

Method 1 (from “inside” the game): With a scenario open, select “Save As” from the “File” pop-down menu. The “Save As” dialog that is displayed will list all currently-saved files of that type – depending on what type of scenario you currently have open; e.g., if you have a PBEM-type scenario open, only *.bte files are shown; if you have a non-special-mode scenario open, standard *.btl files are shown, etc. You can delete any file displayed in the “Save As” dialog by *right-clicking* on that file name and selecting “Delete”. Then press the “Save” or “Cancel” button to exit this dialog.

Method 2 (from Windows Explorer): Open Windows Explorer and locate and open your “Campaign Series” directory (by default, the path is C:\Program Files\Talonsoft). Change the “Views” button of Windows Explorer to show “Details”. You can then organize the files shown by clicking on the various buttons (such as “Name” to order files alphabetically, “Type” to order then by file-type, or even “Modified” to organize them by their ‘date stamp’). If you know the name of a certain file you wish to delete you might want to choose the “Name” button, then just search in the alphabetically-organized list for that name, whereas if you organize by “Type” you will find that all “btl” (normal saved game) files will be grouped together. Use whatever method is most convenient. Then select the file(s) you wish to delete and press Explorer’s “Cut” button, or right-click on the file(s) and select “Delete”.

3) Is there a way to print the info listed in the “Unit Handbook”

A. The information you would like to print is actually contained in a file UNITTEXT.TXT you can open this file in an Wordpad and print it from there – but it is a *long* file! Make sure you check the number of pages you’re going to print!

4) Is it possible to play a scenario of Campaign Series via PBEM / Internet Connection, when two players have games in different languages, for example German, UK and US versions of the game.

A. Yes, but ensure that all players have the same *version* number of the game.

5) I posted a question on the TalonSoft Campaign Series Discussion Board (<http://www.talonsoft.com/discussion.html>) and when I went back to look for an answer, my POST was gone. What happened?

A. Anyone who participates in a discussion on the board *MUST* use *both* his or her *real* first *and* last name (and actual email account) or the post will be deleted. This is the policy you agreed to when you got your password and signed up.

Hardware & Operating System

1) Campaign Series plays really slow on my computer. Is there some way to improve its performance?

Method #1: Check to see if you have enough free space for a fair sized swap file (more properly known as “Virtual Memory”). *Campaign Series* needs at least a 100 Megs of free space on your hard drive to run well. If you have the space, 200 Megs is even better. What’s normally recommended in PC circles is to have free space equal to 2.5 times your system RAM. Normally though, 256 Megs is more than enough. To check your “swap file” settings: from the “START” menu select “Settings”, then “Control Panel” and then open the “System” icon. Click on the “Performance” tab and then (in the “Advanced Settings” area) select the “Virtual Memory” button. Click on the ‘dot’ for “Let me specify my Virtual Memory settings” and input the desired amount in the “Minimum” window (suggest minimum of 100).

Method #2: Ensure that your monitor’s display settings are set to “High Color (16 bit)”. To check this, from the “START” menu select “Setting”, then “Control Panel” and then open the “Display” icon. Click on the “Settings” tab and ensure that the “Color palette” dialog is set to “High Color (16 bit)”.

Method #3: Check the “Performance” settings of your computer. To do this, from the “START” menu select “Setting”, then “Control Panel” and then open the “System” icon. Click on the “Performance” tab and then (in the “Advanced Settings” area) select the “File System” button. Set the option “Typical role for this computer” from “Desktop Computer” to “Network Server”. This should improve the performance of your computer as it changes the way Windows allocates resources, and thus frees up memory for important applications – like *Campaign Series*!

Method #4: It could be that the game files have become severely “fragmented”. Over a period of time files on your computer’s Hard Drive become “fragmented”; the more fragmented the files are (i.e., the more different places the information for each file is stored at) the longer it takes the computer to access that information. Performance of the game (or any program, for that matter) can usually be improved if all the files of the games are contiguously placed on your computer. To do this you need to “defrag” your computer on a periodic basis – almost akin to giving your car an oil change. The Windows operating system has the Defrag utility (from the “START” menu, select “Programs”, then “Accessories”, then “System Utilities” then “Disk Defragmenter”). There are also “third party” utilities available. Be warned, if your hard disk is highly fragmented, defragging it can take as long as playing a medium complexity scenario! For optimal performance (and especially if you add and delete a lot of files), you should “defrag” your computer once a week; at *minimum* once a month.

2) The 3D animations during game play are very slow and/or I get what appear to be corrupted graphics or black squares drawn on the game map in 3D mode.

Method #1: This problem is often a Graphics Hardware Acceleration problem and is usually easy to correct. One item to adjust to improve the game graphics speed is the Advanced Graphics Setting on your system. You find this by going to the Settings, Control Panel (see “Method #2”, in question directly above). Then open the System icon and go to the Performance tab on that. Select the Graphics button on the Performance tab and you’ll find a slider to change your Hardware Acceleration from None to Full. By default you’ll more than likely find the slider all the way to the right (on Full). Play with this, moving it one notch to the left and then trying the game. Note that you’ll have to restart your computer to have the setting take effect. Try the game out and if you still have problems, repeat this process until the game works, or you can’t turn acceleration down any

further.

Method #2: You could also check in the Display Properties. To do this, from the “START” menu select “Settings”, then “Control Panel” and then open the “Display” icon. Then click on the “Settings” tab, then select the “Advanced Properties” button, and click on the “Adapter” tab. At the bottom of this display is a setting for “Refresh rate”. Try changing it to “Adapter default” or “Optimal” and then restart your computer and launch a game scenario to check and see if that helps.

Method #3: Some systems use nVidia chipsets on their video cards (for example, Diamond Viper 550, STB Velocity 4400, etc.). On the initial release of DirectX6 by Microsoft, many drivers supplied by manufacturers for nVidia chipset video cards were not compatible with that software. Visiting the website for nVidia directly (<http://www.nvidia.com>) and downloading the reference drivers for the card will usually correct this problem.

3) I installed Windows 98 and now I cannot resume a saved game. Why?

A. For some reason Windows98, by default, changes the path for saved games to the “My Documents” folder on your system. This is a simple, one time fix. Just open any scenario and immediately save the game. Make sure that the game is saved to the *Campaign Series* directory – not the “My Documents (or any other) directory on your system. Then exit the scenario and resume the saved game; all your previous saved games should be listed in the game list.

4) When I start a Linked campaign game, the screen becomes all garbled with buttons and icons.

A. This is similar to the resume saved games problem directly above, and is also caused by the tendency of Window98 to save a game to your “My Documents” folder. Each time you first start a campaign, you are asked to name it and save it. When saving it, make sure that it is being saved to the *Campaign Series* directory on your system. Once you have saved a campaign once into the game directory, subsequent ones usually save into the game directory properly.

5) When I start the game, I get an error loading dplay.dll or some other “DirectX” error.

A. Try reinstalling DirectX 6 from the game CD. Inside the *Campaign Series* folder on the CD is a DirectX folder, in there is dxsetup.exe. Run this to begin the reinstallation of DirectX.

B. Check to see if you have enough free space for a fair sized swap file (more properly known as “Virtual Memory”). *Campaign Series* needs at least a 100 Megs of free space on your hard drive to run well. See Method 1 of Question #1 of this FAQ section.

6) When I attempt to start a new scenario, any scenario, the game crashes with an “Invalid Page Fault in module ef.exe”. What is the matter?

A. Make sure that you have **no** programs running in the background, specifically FIRST AID, or GUARD DOG, or other similar programs. Second, make sure you have properly installed the latest update for the game. Third, try lowering the hardware acceleration on your video card. If the problem persists, please, contact our tech support department with the make and model of your system, what operating system you have, and the make and model of your CD-Rom drive. Also, be sure to disable all background programs and have the latest update (if any) installed. With this information, we can work with our engineers to determine the problem and have it corrected as soon as possible.

7) When I install the game, I get a move data error -113. What is causing this problem in the installation?

A. This problem seems to be occurring on systems that are running drives on an MS-DOS compatibility mode. From the “START” menu select “Settings”, then “Control Panel” and then open the “System” icon, then click on the “Performance” tab. In the “Performance Status” area, look for the line listing “File System”. If your file system is not currently 32-bit that is the problem

The Nations of Divided Ground		
Nationality Symbol	Country	
	Israel	
	Arab Nation	
	Egypt	
	Iraq	
	Jordan	
	Syria	

Campaign Series Composite Credits

Producer: Matthew Kreager
Unit Database Research: Joseph Hummel, Matthew Kreager
Research: Joseph Hummel, Matthew Kreager
Programming: Sean Carson
Scenario Design: Edwin “Mick” Conmy
Linked Campaign Games: Edwin “Mick” Conmy
Players Guide Introduction: Special thanks to the Israeli Government
Loading Instructions: Matthew Kreager
VP of Business Development: Jamie Leece
General Manager: Chris Mate
Executive Producer: Robb Alvey
Marketing Director: Greg Bauman
Marketing Manager: Mark Moon
Marketing Communications Coordinator: Chris Larkin
Corporate Communications Manager: Anne-Marie Sims
Art Director: Mike Snyder
Cover Art: Kurt Miller
Graphic Artist: Pete Muench, Chrissy Lagna
Game Art: Kurt Miller, Steve Estes, Liz Brown
Video and Audio: Brian Anderson
Webmasters: Robert Fletcher
QA Manager: Phil Santiago
QA Supervisor: Frank Kirchner
Project Lead: Lisa Nawrot
Computer Specialists: Kathy Richardson, Ann Takeuchi
Technical Support: Pete Stewart, Patty Saneman, Kathy Young, Andre Liggins, Daniel Karp, Jeff Zoller, Alex Bradley
Quality Assurance: Kai Ma, Josh Rose, Joe Covello, Stacey Sharpe, Joshua Noll, Stephen Thomas, Scott Vail
Special thanks to: Linda Wratchford, Peg Zoltan, Patty Santiago, Melissa Voggenauer and Dara Ann Lawrence
PlayTesters: Wyatt Kappely, Greg Cyrier, Steve Whitmore, Ross Moorhouse, G. Mark Kelm, Orval Darrow, Ronald Richards, Patrick Ceballos, Eric Young, Peter Szymonik
Special Thanks: To Wyatt Kappely for his hard work and determination to make Divided Ground an even better product.

Hot Keys: These following hot keys can be used in the main program:

F1 - Open Main program help file
F2 - Open Unit Handbook
F3 - Open Scenario Parameter Data help file
F4 - Opens the Miscellaneous (platoon) Data File
F5 - Opens the Weapons Data File
Keyboard 1 - Display in 3D Normal View
Keyboard 2 - Display in 3D Zoom-Out View
Keyboard 3 - Display in 3D Extreme Zoom-Out View
Keyboard 4 - Display in 2D Normal View
Keyboard 5 - Display in 2D Zoom-Out View
Number Pad 0 - Load/unload unit
Number Pad 1 - Move selected unit down and left
Number Pad 2 - Move selected unit down
Number Pad 3 - Move selected unit down and right
Number Pad 4 - Turn selected unit counter-clockwise
Number Pad 5 - Request air attack on Hot Spotted hex
Number Pad 6 - Turn selected unit clockwise
Number Pad 7 - Move selected unit up and left
Number Pad 8 - Move selected unit up
Number Pad 9 - Move selected unit up and right
Alt - Used (with Indirect Fire unit) to fire Smoke; also for Organizational “Column” Move
Ctrl - Toggles between Move mode and Fire mode
Shift - Displays map labels; also used for Organizational “Echelon” Movement
Delete - Turn selected unit counter-clockwise
Page Down - Turn selected unit clockwise
Home - Move selected unit forward in hex
End - Move selected unit backward in hex
A - Brings up the arrival of reinforcements dialog
C - Toggle display of map’s elevation “contour” lines
D - Brings up Opportunity Fire Dialog
F - Brings up the release schedule for Fixed units dialog
H - Toggle display of hexes reachable by selected unit
I - Display scenario information
M - Toggle display of program menu
N - Advance to next unit to move or fire
O - Toggle display of objectives
P - Advance to previous unit to move or fire
R - Rotate map 180°
S - Brings up the scheduled reinforcements dialog
T - Toggle display of on-map thermometers
U - Toggle display of Unit List
V - Toggle display of Visible Hexes
W - Toggle display of HQ command range
X - Exit Main program
Z - Toggle display of the selected unit’s maximum range
Up Arrow - Scroll map up
Down Arrow - Scroll map down
Right Arrow - Scroll map right
Left Arrow - Scroll map left
Space Bar - Re-center map on current Hot Spot hex

Technical Support

If you have a technical support problem concerning the operation of our software, please contact our technical support staff. When you call or write, be at your computer if possible and have the following information ready: computer type, Available hard drive space, total RAM, type of video card, and a list of options you chose when you installed the game.

Technical Support: 1-410-933-9191, M-F 9-5pm, EST

E-mail us at Tech@talonsoft.com

If you have access and would like to contact us on-line you will find us at:

<http://www.talonsoft.com>

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