

Scorched Earth 1.2

- The Mother of All Games -

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Introduction

Scorched Earth is a simple, yet exciting artillery combat game, based on an auspicious history of artillery games. Most of the options are very intuitive, and you can begin playing with only a little bit of information. Then, when you are interested, you can poke in the dimmer recesses of the manual for more information and options (or just ignore it altogether!)

Note that Scorched Earth uses the full 256 colors available on a VGA monitor, and will not run on anything less (i.e. Hercules, MDA, CGA, EGA, PGA, etc.) If you don't have a VGA, you'll have to find a friend who does.

If you want to get started right away (and don't we all?), skip to the next section for a Quick Start.

The following is a list of files that are distributed/created by Scorch, along with a description of what they are. If you are missing any of these files (except SCORCH.MKT), then you have an incomplete copy of Scorch! Further descriptions of these files can be found in the manual.

Filename	Purpose/Description
FIX.BAT	Utility to remove bad .cfg files
ORDER.FRM	Registration form
README	Last minutes changes and updates
SCORCH.CFG	Scorched Earth Configuration File
SCORCH.DOC	Scorched Earth Documentation
SCORCH.EXE	Scorched Earth, The Game
SCORCH.ICO	Scorched Earth Icon for Microsoft Windows
SCORCH.MKT	Scorched Earth Market Price Database (This file is automatically created)
SCORCH.PIF	"Program Information File" for starting Scorched Earth from Microsoft Windows 3.1
TALK1.CFG	Comment File used for Talking Tanks
TALK2.CFG	Another Comment File used for Talking Tanks

Scorch Quick Start

So, you want to play Scorched Earth...OK, here's whatcha gotta do:

Start Scorched Earth by copying everything into a subdirectory of your harddisk, like c:\games\scorch, or by putting it all on a floppy disk.

Now type SCORCH (and then hit <Enter> for all you novices. :-))

You are now looking at a Shareware message. Take the time to read it and let it bother your conscience just a little bit. Don't worry, there's nothing subliminal in the message. (Trust me!)

Now just hit any key, and you will be looking at the opening screen. For the first game, We'd like to make a couple of changes to Scorched Earth's normal default settings. Here's how ya do it:

With the mouse, click on Sound, or press "O". Then press "F" for Flight Sound 2 times. (or click twice) so that it says POS. If you go past it, just click a couple extra times, till it comes back. Now press ESC, or click anywhere outside the dialog box.

Now click on Landscape, or press "L". Then press "R" for Random Land. (Or click on it). Now press ESC, or click anywhere outside the dialog box.

Now click on Physics, or press "Y". Then press "W" 2 or 3 times till it says Random. (or click on Walls Exist) Now press ESC, or click anywhere outside the dialog box.

Now click on Play Options, or press "T". Then press "T" again (or click on Talking Tanks) until there is a check mark in the box. This means ON.

Now click on Economics, or press "E". Then press "C" (or click on Computers Buy) to turn this option off. This will give you a little advantage while you're learning. Now press ESC, or click anywhere outside the dialog box.

If you have a slow system, you might want to go to the hardware menu and set the firing delay to a smaller number. The best thing is to play it once, and see how fast it is, then adjust it to suit your system. If the system seems to be going too slow, just DECREASE this number.

If you want, save these defaults by selecting "Save Changes". You can always retype them later, or get rid of them later, at your discretion.

Now, click on Start, or press "S", and start the game.

The screen will turn red (every player has his or her own color). The computer will display a window which says "Player 1". Type your name and press ENTER. For now, ignore the tank icons across the bottom. Click on the Done button or press 'D'. (A second ENTER will also work here).

Next the screen will turn green, and display a new window. If you have a

Scorch Quick Start cont...

friend, type in his or her name like you did for yourself. Otherwise, you'll want to select a computer foe. To do this, click on the picture of a computer in the lower left, or press TAB (you might need to press ESCAPE first, to let the computer know you won't be typing in a name). The screen will change to list the different types of Computers available. The opponent types are all explained later in this manual. For now, choose Moron by pressing 'M' or clicking on the word "Moron." That should give you a chance to learn the ropes. Then press the Done button, or ENTER. (The computer will choose its own name.)

Now the computer will generate a random Scorched Earth background. A player will be chosen at random to go first, and then play will proceed from left to right. If the computer went first, you have already been fired upon. Get revenge!

To fire, select fire-power, by using the up and down arrows, or putting the mouse over it (at the top left of screen) and pressing the left or right button to increase or decrease power. Do the same with angle, using the left and right arrows, or putting the cursor on it and using the mouse buttons.

Now press space bar, or both mouse buttons at once! Boom!

That's basically how it goes. You can keep shooting till you get the other tank(s). If you're having trouble, start over, and set the Trace option to ON, so that all your missiles leave a colored track. The screen will get messy, but it's much easier to figure out where you shot.

After you kill a tank, you have the option to buy weapons, based on how much money you made. Money you don't spend will be saved till later. Try buying a Baby Nuke. Then, before you fire the next time, press TAB, or select your weapon by clicking the left or right mouse button on the top right corner of the screen. Sit back and watch the fun. The tank control panel is activated by pressing "T" or left-clicking on a player's name. Here you can work the guidance and defense systems.

At any time, hit "Alt-S" or F1 for the system menu, which will let you exit the game, switch players, or kill everyone! Most of all, just experiment, and have fun. Answers to any questions at all should be in the manual, but don't hesitate to e-mail and ask. Appropriate addresses are at the end of this document.

HAVE FUN!

Choosing Players

Once you have chosen START from the main menu, you will be allowed to choose settings unique to each player. All of these choices can be changed while playing the game by using the system menu (See Using the System Menu). The following procedure will repeat for each player in the game:

- 1) The background will change to several shades of a particular color. This color will represent the player being configured, and may not be changed.
- 2) The Tank Initialization Panel will appear. This identifies the current tank by number, and gives access to all the settings you can control. The contents of the Tank Initialization Panel vary depending on what kind of player you are choosing: Computer-controlled, or human-controlled. To switch between the types of players, press the TAB key or select the appropriate icon. The various choices are described below. When you are satisfied with your choices, press "Done" or ENTER.

That's all there is to it. If you are starting with initial cash, then each player will have a chance to buy things (see Buying Equipment). Otherwise, you will proceed directly to the game (see Playing the Game).

Human-Controlled Players

For human controlled players, you must at least enter your name. You do this by typing into the box labelled "Name" at the top of the initialization panel. If there is not a blinking vertical line (a "caret"), you will need to press 'N' first to select this field. After you have entered your name, press ENTER.

If you have selected simultaneous mode you must decide which keys the players will use to control their tank, as every player will use the keyboard simultaneously (Computer players don't need keys, so this selection applies only to non-computer players). You must choose six keys, for six different actions, as shown on the initialization panel by icons. The icons, in order, stand for:

1. Clockwise rotation of the turret
2. Counter-clockwise rotation of the turret
3. Increasing firing power
4. Decreasing firing power
5. The fire button
6. A button to change weapons

Simply press the key you want, one for each box. Be careful to make sure that no key is used for more than one thing (if you don't, you will hear a beep, and must enter a new key). For more information, see Simultaneous Mode.

Computer-Controlled Players

If you chose to play the Computer, you will be prompted for information on how the computer should play the tank. Choices and their meanings are listed below. In any case, the computer will choose a name for its player which will not conflict with any name used by a human (or otherwise) player.

Available Computer Opponents

Category	Methods of Operation
-----	-----
Moron	Well, you can't get much stupider than this. Morons just pick an angle and power, and shoot. Definitely for beginners only.
Shooter	Shooters can be significantly deadlier than Morons, but only if they have a straight line of fire.
Poolshark	Poolsharks act like Shooters unless you are using rebounding walls. Then they try to rebound shots off of the walls and ceilings to shoot you.
Tosser	Tossers start out like Morons, but they'll refine their aim to get closer and closer, until they hit. If their initial shot isn't too close, you have some time to kill them.
Chooser	Choosers have all the above methods available to them, and decide which one will be most effective.
Spoiler	Spoilers are decidedly dangerous. Taking into account the wind factor and gravity, they will get a perfect shot almost every time, assuming nothing is in the way. Luckily, they aren't able to compensate for viscous air.
Cyborg	Cyborgs use methods similar to the Spoilers, but are much nastier about choosing targets. They will tend to attack tanks who are weakened, winning, or have attacked them in the past.
Unknown	If you choose this option, one of the above will be chosen randomly to control the tank, but you will not be notified of what the selection was!

Computer-Controlled Players cont...

Tank Icon Selection

Whether you are choosing a human or a computer player, you will need to select an icon, or graphical image, that will represent the tank. For the most part, this is just a matter of taste.

If you choose an icon that doesn't have wheels or treads, you are selecting a fixed emplacement rather than a tank, and that player will not be able to buy (or use) fuel. Thus, they will be immobile for the duration of each round (except for falling, of course!).

One of the icons may only be selected for Computer players. This icon is the largest one to the right, and will appear grayed while you are choosing human players. The icon represents the deadly "Triple-turreted tank", which allows the tank to fire three shots at a time if it is using Missiles or Baby Missiles. This gives particularly good players a run for their money!

Playing the Game

When the game starts, you will see a background drawn, with tanks scattered more or less evenly across the landscape. Most of the action is controlled from the thin horizontal control bar across the top, but there are a few extra options which use other parts of the screen. The top bar might be arranged like this:

[Power: 345 Angle: 35 Sprig o 3 Dirt Clod]

Power is the amount of power you wish to fire your weapon with. It may be anywhere between zero and the maximum available power for your tank (1000 if you're at full strength) Your current maximum may be found on the Tank Control Panel, which you access by pressing 't' (explained in just a moment), or will be listed on the next line if you have enable the Status Bar.

Angle is the angle at which you will be firing. It will always be between 0 and 90. You must look at you tank to know which direction you will be firing. 0 is horizontally level, and 90 degrees is straight up.

Sprig would be the name of the player whose turn it is, and will be written in the same color as the tank representing that player.

Dirt Clod is the currently selected weapon. On the far right, there will always be an icon, a number, and the name of the currently selected weapon. The number indicates how many of that weapon you have left. This number will always be greater than zero, as you can't select a weapon if you don't have it.

In the upper right corner of the sky, there will be the word Wind written in a light blue, with either an arrow pointing left or right, and a number. This represents the speed and direction of the wind, which will affect your shot. You can control the wind somewhat before you start the game by changing options on the Weather menu (see Main Menu). If there is no wind, the words No Wind will be written there.

If you have enabled the Status Bar (which can be found on the Play Options menu), there will be a second line of information (Beginners should probably skip this section on first reading. Go to section title "Controls Available." If, on the other hand, you are a compulsive reader, feel free to continue... no secrets here!):

[Max: 1000 0 [batt] 0 [para] 0 [shld] 0% 0 [guid] 0 [trig] 0 [fuel]]

The status bar takes some getting used to, but is a fast way to control your tank. The leftmost entry shows your current maximum firing power. This will be 10 times your tank's remaining power. If this number reaches zero, you are dead.

The rest of the status bar contains a number of icons. Typically, if an item is available, the number to the left of its icon will be dark (otherwise, it is gray). If an icon is dark, that means it is "active,"

Playing the Game cont...

i.e. either that action is selected, or available. Each icon is explained in brief detail below. For more detail on these features, consult the section on the Tank Control Panel.

The first icon is a battery, and the number to the left is how many batteries you have in stock (the number to the left of an icon indicates how many of that icon you have available). If your energy is not at full, the icon of the battery will be black, indicating you can use batteries to recharge your power. If you have no batteries, or no need to use them, this icon will be grayed.

The second icon is a parachute. This lets you toggle the current state of your parachutes, if you own any. For example, if you have 5 parachutes which are in the "passive" state, the 5 will be dark and the parachute icon will be gray. If the parachutes are "deployed," then the parachute will also be dark. If you have no parachutes, both the number and the icon will be gray. (Parachutes will be explained in greater detail further on!)

Next is the shield control. If the shield icon is dark, that mean the icon showing represents whatever shields are currently active. The percentage indicates how much of the active shield remains, while the number to the left of the shield indicates how many of that type of shield you have in inventory. When you energize your shields, the shield represented by the icon will be activated, decrementing the count on the left by one, and increasing the percentage to one-hundred. The icon of a small person to indicate "no shields." When shields are enabled, the "no shields" icon will be a downward-pointing arrow. You can use this icon can be used to de-activate (take down) your shields entirely.

Next are guidance systems. If there is a guidance system icon displayed, that guidance system will be used when you fire (unless it does not apply, explained later). The small icon of a person means "No guidance, I can hit that tank by myself!" The number to the left indicates how many of the selected guidance system you currently own.

Continuing across the status bar, you will find a contact trigger icon, The trigger icon will be gray if triggers are not active, and dark otherwise. The number indicates how many triggers you currently own.

Finally, there is a fuel icon (but not in 320x200 mode... no space!). The fuel icon will be dark if you have any fuel at all, in which case clicking on this icon will send you directly to the Tank Movement Panel, so you can move your tank from side to side.

Controls available:

F1 or Alt-S (which pops-up the System Menu) is available at any time. In addition, there are several controls you can use at this point in the game (facing the playing field with no other controls).

UP ARROW: Increase the power with which you want to fire.
This can be done with the mouse by clicking on the word Power with the right mouse button. As long as you hold the key or button, the number will continue to increase (up to its maximum).

PAGE UP: Rapidly increase the power with which you want to fire. This is similar to using the UP ARROW, except the numbers will change much faster.

DOWN ARROW: Decrease the power with which you want to fire.
This can be done with the mouse by clicking on the word Power with the left mouse button.

PAGE DOWN: Rapidly decrease the power with which you want to fire. This is similar to using the DOWN ARROW, except the numbers will change much faster.

LEFT ARROW: Rotate your turret counter-clockwise. This can be done with the mouse by clicking on the word Angle with the left mouse button.

RIGHT ARROW: Rotate your turret clockwise. This can be done with the mouse by clicking on the word Angle with the right mouse button.

SHIFT: If you hold down the SHIFT key while using any of the arrow keys, the power/angle will increase/decrease more slowly. This is useful for making small adjustments to your current power and angle.

Controls available: cont...

- ALT: If you hold down the ALT key while using any of the arrow keys, the power/angle will increase/decrease by only one for each press of the arrow key. This is useful for making very fine adjustments to your current power and angle.
- TAB: Change weapons. This can be done with the mouse by clicking on the weapon name with the right mouse button. When you change weapons, each weapon you own appears in turn. To change weapons in the other direction of the weapons list, use SHIFT-TAB, or click on the weapon name with the left mouse button.
- SPACEBAR or ENTER:
Fire your currently selected weapon.
This can be done with the mouse by clicking both buttons simultaneously while positioned over the playing area. You will then see your shot on screen, along with any effects, and the next player will have a turn.
If you are using guidance systems, you may need to provide additional information after firing your missile, so it knows what destination it is headed for. See Guidance Systems.
- t: This selects the Tank Control Panel. This may be done with the mouse by clicking on the player name with the left mouse button. For more information about this panel, see the Tank Control Panel below.
- i: This brings up an icon inventory of all the items you have in stock. You can do this with the mouse by clicking on your name with the right button. If you have a mouse, you can click on any weapon icon, and that will become the currently selected weapon. There is no keyboard equivalent to this shortcut. To exit from this panel, click anywhere outside the inventory box, or press the ESCAPE key.
- k: Display a box which reads "No kibitzing, please." This is a not so subtle clue to tell people to shut up when you are trying to aim! Press any button or key to remove the box.
- r: Retreat from the playing field. There is no way to do this with the mouse. You will gain no points for this action, but may prevent an enemy from getting points for

Controls available: cont...

killing you. This is sometimes a wise action if you know you are going to die. If you kill yourself, you will actually lose cash! After you press 'r', you will be asked if you really want to retreat before this action takes effect. You will escape in an emergency helicopter (model G.N.A.T.), and your tank will blow up behind you.

u: Display an update of the game status, i.e. what state are the walls in, and how many rounds are left. Click anywhere outside the box, or press any key to get out.

0,1,2,3,4,5,6,7,8,9:

Display information about the tank which corresponds to the number. The leftmost tank will be numbered one, the next numbered two, and so on. If there are ten tanks, the last one will be numbered 10, represented here by a 0. Note that when tanks die, their representative order will change. This information can be gotten more easily by clicking on the tank you are interested in with the left button. To get rid of the information box, click anywhere outside it or press ESCAPE.

If you have the Status Bar enabled, another set of keys will be active which allow you to control the options listed there. The options correspond to those found on the Tank Control Panel, and are explained in more detail there. There is currently no way to set the parachute safety threshold from the Status Bar.

- b: Activate one battery. This increases your power by 10 units. You can do this with the mouse by clicking on the battery icon on the status bar.
- p: Toggle the state of your parachutes. Deployed parachutes will become passive, and passive parachutes will deploy. You can do this with the mouse by clicking on the parachute icon on the status bar.
- s: Select shield type. This selects the current shield type. This is useful for changing your shields or recharging them. You must select a shield type before energizing a shield. Note that the small stick figure indicates no shields, and can be used to deactivate shields. You control this option with the mouse by clicking on the shield icon on the status bar.
- e: Engage current shield type. This engages the current shield type, or deactivates the current shield if you have selected "nothing" as your current shield. This option will not work if you try to charge a fully charged shield of the same type, but will work to switch shield types. You can do

this with the mouse by clicking on the % energized number to the right of the shield icon on the status bar.

Controls available: cont...

- g: Select guidance system. This selects your current guidance system. The stick figure indicates no guidance system. You can do this with the mouse by clicking on the guidance icon on the status bar.
- f: Use fuel. This enables you to move your tank back and forth, as described in the section Moving Your Tank. You can enable this with the mouse by clicking on the fuel canister icon on the status bar.
- .: Enable/disable contact triggers. This option is not available in 320x200 mode. This controls whether your shot will tunnel or not. You can do this with the mouse by clicking on the contact trigger icon to the far right of the status bar. Note that the equivalent key from the Tank Control Panel is 't'.

Tank Control Panel

When the Tank Control Panel is displayed, the above commands are disabled and replaced by a new set of commands. For more information on some of the items described here, see the extensive descriptions in the Equipment List. Most of the hotkeys will be highlighted. If any entry is gray, that means that the option is not currently available (for example, you may not control parachutes unless you have at least 1 parachute in your inventory).

If you have the status bar enabled, you will be able to access most of these options without using the Tank Control Panel. Some people find the Tank Control Panel easier, while others prefer the status bar. In either case, the actions performed are identical.

Controls available:

- b: Discharge one battery in order to increase your remaining power. If your remaining power is 100 (the maximum), or you have no batteries, then you cannot use this option. Each battery will increase your power by ten, unless doing so would give you more than 100 power. In this case your power will simply be put to 100. This can be done with the mouse by clicking on the word Batteries.
- p: Change the active state of parachutes. Parachutes may either be passive, or deployed. Each time you press p, the state will change back and forth. This may be done with the mouse by clicking on the word Parachute. Note that if you have no parachutes, you may not change the state of them. For more information on what the state of a parachute means, consult the Equipment List.
- v: Change the safety threshold of the parachute. This may be done with the mouse by clicking on the tiny dial to the right of the word Parachutes. When you select this, the number to the right of the dial will disappear, and a large box will appear. You may type any number between 1 and 100, then press enter to register your change. If you decide not to change the value, you can press ESCAPE. This number can only be entered from the keyboard. For more information on what the safety threshold is, see the Equipment List under parachutes.
- e: This option will engage the currently selected shield. This can be done with the mouse by clicking on the words Energy Left, or by clicking on the power bar to the right. The currently selected shield is the one pointed to by the slide bar directly underneath the words Energy Left. If any shields are engaged, the percentage of protection remaining will be indicated by how much of the power bar is lit. Engage shields will remove whatever shields were present, if

Tank Control Panel cont...

any, and put the currently selected shields to full. If the currently selected shields are None, then energizing them will put your shields down all the way. If you put down your shields, or energize a shield when a shield was already present, there is no way to regain that shield. For more on shields, see the Equipment List under Shields and Auto Defense.

- s: This option lets you change the currently selected shield. This has no effect on the game unless you energize the shield, as described on the command above. You may do this with the mouse by clicking on the slide bar. Note that each type of shield will say how many of that type you have left. If you have a shield currently in place, the name of the shield will be highlighted here. The currently selected shield need not be the same as the currently energized shield. For more on shields, see the Equipment List under Shields, and the paragraph above on Energizing Shields.
- t: This lets you use triggers. You may do this with the mouse by clicking on the box next to the word Triggers. You may only do this if you have more than zero triggers. If you select triggers, your weapon will be equipped with a trigger when you fire. No triggers will actually be used until you fire, so until that point you may reselect Triggers to turn them off. For more information on triggers, consult the Equipment List.
- g: This lets you choose a weapons guidance system. You do this with the mouse by clicking on the slide bar beneath the word Guidance. When you fire a weapon, the guidance system which you have chosen, if any, will take charge and do whatever it is that it does. No guidance system will actually be used until you fire. After firing, the guidance system will be set back to None, so you don't accidentally waste some expensive electronics. For more info on Guidance Systems, consult the Equipment List.
- f: This lets you move your tank, assuming that you have some amount of fuel which is not zero. You can do this with the mouse by clicking on the words Fuel Remaining. For information on how to move your tank, see Moving your Tank.

Moving your Tank

When you choose **f** from the Tank Control Panel, that panel will disappear, to be replaced by the Moving Control Panel. The Moving Control Panel has two arrows, one pointing left, and one pointing right, and a button between them which says how much fuel you have left. To move in a direction, click on the arrow in that direction, or press the **LEFT ARROW** or **RIGHT ARROW** keys. Moving one pixel requires one unit of fuel, unless you are going uphill, in which case it depends on how steep the hill is.

If a hill is too steep, you will be unable to climb it. If you really want to go that direction, you'll have to blow the hill up! If a hill which you are descending becomes too steep, your tank will slip and fall, possibly taking severe damage. If this happens, control will return to the main area of the game. If you want to move further, you'll have to reselect **f** from the Tank Control Panel.

When you have no fuel left, you can move no farther. In any case, when you decide you have finished moving, you may press **ESCAPE**, or click on the button which indicates how much fuel you have left. This will return you to the main part of the game, not the Tank Control Panel.

Controls available:

LEFT ARROW: Move your tank left one pixel. Naturally, you can only do this if you have fuel. This is done with the mouse by clicking on the left arrow of the Moving Control Panel.

RIGHT ARROW: Move your tank right one pixel. Naturally, you can only do this if you have fuel. This is done with the mouse by clicking on the right arrow of the Moving Control Panel.

ESCAPE: Finish moving your tank. This is done with the mouse by clicking on the "Fuel Left" indicator.

Inventory Panel

When you press 'i' during your turn, or right-click on your name, the Inventory Panel will pop-up. This panel displays an icon for each type of item you currently own. This panel gives you short-cut access to many of the features of Scorch. When you are done looking at/using the Inventory Panel, press ESCAPE or click outside the panel. Beginners should probably skip the rest of this section on their first reading.

When you select an icon, you will either hear a beep, or the icon will "flash." If the icon flashes, that means it has taken the "obvious" action. The "obvious" actions are described briefly below:

Weapons will be selected, so that you don't have to TAB through a list to get to them. This is often a convenient way of choosing a weapon.

Shields will be energized. Unlike other methods of energizing a shield, this method both chooses and energizes the shield, so one click gets you the whole shooting match.

Parachutes and triggers will be toggled from an "active" state to a "passive" one.

Guidance systems will be selected. Note that there is no way to de-select a guidance system from the Inventory Panel... you will need to use the Tank Control Panel or the status bar.

Batteries will be discharged to recharge your energy.

Clicking on the fuel icon will send you directly to the Moving Control Panel.

Generally speaking, the Inventory Panel shortcuts become easier and more convenient the more you use them, but if you don't like them, feel free to ignore them. As an aside, remember that the Inventory Panel serves a completely different purpose when selected from the Buying Menu... at that point, you click on an item to see how much the computer will buy it back for. This is described further in another section.

Buying Equipment

Between rounds, players who have extra cash will be given the opportunity to buy more equipment. For a list of available equipment, see the Equipment List. This section explains the commands available for selecting and purchasing equipment.

Along the left hand side of the buying screen, there is a large column of rectangles, each of which displays an icon, a name of an item that can be bought, and the cost per bundle of that item. Some items can be bought singly, while others may only be bought in groups of three, five, or another number. To buy an item, click on the name representing that item. You will see the count increase, and your money decrease. When you have no money left, you must select Done, or press ESCAPE, so that the game may continue.

Note that you can never have more than ninety nine of any item. If you try to buy more than ninety nine of a particular item, you will only pay for the fraction that you can buy, but they will be marked up. That sentence is confusing enough to warrant an example: Suppose you have 94 Death Widgets that cost \$10,000/10. Because of the ninety nine limit, you can only have five more (until you use some, of course.) The computer will only sell you 5 Death Widgets, but instead of \$5,000/5, you must pay \$6,000/5, because the bundle size changed. The markup is about 20%.

Note also that each player has an unlimited supply of Baby Missiles. They're listed on the menu so that you don't forget them, but you will always have 99.

Controls Available:

PAGE DOWN: Go to the next screen, if any, of the current group of items. This is equivalent to clicking on the down arrow. If the down arrow is grayed, this will do nothing. Note that the list wraps around, i.e., if you are on page 2 of 2, then pressing page down will put you back on page 1.

PAGE UP: Go to the previous screen, if any, of the current group of items. This is equivalent to clicking on the up arrow. If the up arrow is grayed, this will do nothing. Note that the list wraps around, i.e., if you are on page 1 of 2, then pressing page up will put you on page 2.

i: This will display an icon inventory of what items you currently have in stock. You can do this with the mouse by clicking on the "Inventory" button. This inventory will tell you how many you have of each item that you own. To get rid of the inventory and return to buying things, click anywhere outside the box, or press ESCAPE. If you click on any item of your inventory except Baby Missiles, you will have a chance to sell that item, as explained below.

Buying Equipment cont...

- u: This will display an update of the game status. You can get this with the mouse by pressing the "Update" button. A small, pop-up window will describe how many rounds are left, and how much interest you have earned since the start of the game. To get rid of the update panel, click anywhere outside the panel, or press ESCAPE.
- UP ARROW: This will move the triangular marker for the currently selected item up one. This wraps around, i.e., if you are at the top of the list, it will put you at the bottom. It will not, however, change between pages of a list. You cannot move the marker in this fashion with the mouse.
- DOWN ARROW: This will move the triangular marker for the currently selected item down one. This wraps around, i.e., if you are at the bottom of the list, it will put you at the top. It will not, however, change between pages of a list. You cannot move the marker in this fashion with the mouse.
- HOME: This will move the triangular marker to the top of the list. It will not change pages.
- END: This will move the triangular marker to the bottom of the list. It will not change pages.
- TAB: This can be used to select different groups of items to look at. This is equivalent to clicking on the slide bar. The gun icon represents the Weapons group, and the box icon represents the Miscellaneous group. Note that the name of the current group is displayed at the top of the item list.
- SPACE BAR: This will purchase one bundle of the item pointed to by the triangular marker. This can be done with the mouse just by clicking on the item you want to buy (the marker will jump there). Note that you can buy anything you can see, because items that are too expensive never appear until you can afford them. If making this purchase decreases your free cash to the point where you can't afford something, that item will disappear from the list of items. (It will return when you can afford it again).
- ESCAPE: This finishes the buying menu. Do this when you have finished buying items. This will let the next player buy items, or if everyone is finished, it will begin the next round. You can do this with the mouse by clicking on the DONE button.

Selling Items

When you select an icon from your inventory while on the buying screen, you will be given a chance to sell that item back. Another panel will appear that names the item and how many you have in stock. There will be a counter (as used in the configuration menus) that lets you choose how many you want to sell by pressing 'q' (for "Quantity" to sell), or left and right clicking to decrease and increase the amount. At each amount the computer will make you an offer. The price per item may vary depending on how many you are willing to sell.

After you have reached a decision, press 'a' to accept the computer's offer, or 'r' to reject it (or simply press the appropriate button). If you accept the offer, your account will be credited, and the number in your inventory will be decremented. You may spend the money immediately, if you wish, or keep it in the bank to earn interest. You may go back and forth to the Selling Panel as often as you wish, but the computer will not change its offer until the next round (and possibly not even then).

Although you must usually accept a loss when you sell something back, if you are playing with the Free Market switch on, it is possible to accumulate money if you buy low and sell high... this sort of creative financing is risky, but potentially lucrative! Be aware that the Scorched Earth free market simulates a supply and demand economy. In general, this means that the more something is bought, the greater the demand for that item, and thus the price increases. However, you will notice the market prices "bouncing" up and down a little bit. This is a natural consequence of the free market, and isn't a bug. I mention it here as a warning: just because you buy something, it doesn't mean the price will immediately jump... it may take some time for the market to reach a new equilibrium. The best way to understand the free market is to use it, and get a feel for how it works.

Controls Available:

q: This changes the quantity that you want to sell. For each quantity, the computer will make a different offer. Pressing Q will increase the amount to sell by one, and ALT-Q will decrease that amount by one. You can do this with the mouse by right and left-clicking the word "Quantity."

UP ARROW: This increases the quantity you want to sell by one (or sets it back to zero if it was at the maximum already). You do this with the mouse by left-clicking on the word "Quantity." This is a short-cut for pressing Q.

DOWN ARROW: This decreases the quantity you want to sell by one (or sets it to the maximum if it was at one). You do this with the mouse by right-clicking on the word "Quantity." This is a short-cut for pressing Alt-Q.

a: Accept the computer's offer. This sells the quantity of the item selected and credits your account immediately. You

can do this with the mouse by clicking on the "Accept" button.

Selling Items cont...

r: Reject the computer's offer. This quits the Selling Panel and puts you back at your inventory. Nothing is sold, and your account remains unchanged. You can do this with the mouse by clicking on the "Reject" button.

ESCAPE: This is equivalent, in every way, to pressing the "Reject" button.

Equipment List

The current equipment list is grouped into two categories: weapons and accessories. These are the same categories which appear on the buying screen, except that the accessories category is labelled "Miscellaneous." The name of the item is the name which you will see on the screen. The cost is given in dollars per bundle, e.g. \$400 for a bundle size of 10 means that you get 10 items for \$400 (\$40 each, but you have to buy in multiples of 10). For weapons, a blast radius is given, which is an estimate of how large the area of damage for that particular weapon is (this can be affected by the current scale being used). The arms level shows where the cut-offs are between different categories (see Configuring Scorch, Weapons Menu, for a description of how to use arms levels).

Each category has a table describing the available items, and then lists descriptions of the items and how to use them, along with pictures of the icons which help you recognize the items. To further help you group similar items, there are some subcategories within the weapons and accessories.

Some of the equipment is rendered useless when certain options are enabled (for example Smoke Tracers are redundant if Tracers are enabled anyway). By default, such weapons will not appear on the buying menu. You can make them appear anyway if you set the Useless Weapons option to ON when configuring Scorch.

Available Weapons

Name	Cost	Bundle Size	Blast Radius	Arms Level
Baby Missile	\$400	10	10	0
Missile	\$1,875	5	20	0
Baby Nuke	\$10,000	3	40	0
Nuke	\$12,000	1	75	1
Leap Frog	\$10,000	2	20,25,30	3
Funky Bomb	\$7,000	2	80	4
MIRV	\$10,000	3	20	2
Death's Head	\$20,000	1	35	4
Napalm	\$10,000	10	N/A	2
Hot Napalm	\$20,000	2	N/A	4
Tracer	\$10	20	0	0
Smoke Tracer	\$500	10	0	1
Baby Roller	\$5,000	10	10	2
Roller	\$6,000	5	20	2
Heavy Roller	\$6,750	2	45	3
Riot Charge	\$2,000	10	36	2
Riot Blast	\$5,000	5	60	3
Riot Bomb	\$5,000	5	30	3
Heavy Riot Bomb	\$4,750	2	45	3
Baby Digger	\$3,000	10	N/A	0
Digger	\$2,500	5	N/A	0
Heavy Digger	\$6,750	2	N/A	1
Baby Sandhog	\$10,000	10	N/A	0
Sandhog	\$16,750	5	N/A	0
Heavy Sandhog	\$25,000	2	N/A	1
Dirt Clod	\$5,000	10	20	0
Dirt Ball	\$5,000	5	35	0
Ton of Dirt	\$6,750	2	70	1
Liquid Dirt	\$5,000	10	N/A	2
Dirt Charge	\$5,000	5	N/A	1
Earth Disrupter	\$5,000	10	N/A	0
Plasma Blast	\$9,000	5	10-75	3

Standard Weapons

The standard weapons are straightforward destructive devices. You launch them and they cause damage. How much simpler can it get?

Baby Missile The Baby Missile is the earliest developed weapon, and performs as such. Every player has an UNLIMITED supply of them.

Missile The Missile is an enhancement of the baby missile, increasing both the blast radius and the damage delivered.

Baby Nuke The Baby Nuke is a nuclear explosive capable of destroying a large region.

Nuke The Nuke is a large-scale nuclear weapons capable of mass destruction.

Leapfrog The Leapfrog has three warheads which launch one after another. This is often very effective for penetrating shields.

Funky Bomb The Funky Bomb explodes in a multi-colored toxic chain reaction. Sometimes they don't explode exactly where you want them to, but they are generally confined to the area where they hit.

MIRV The MIRV contains five Missile warheads, which split apart when the original missile reaches apogee. If the warhead hits something before reaching apogee, it will not explode.

Death's Head The Death's Head is the most destructive weapon created to date. Functionally equivalent to MIRVs, it contains nine large scale explosive warheads.

Napalm Napalm splashes around wherever it hits and then bursts into hot flame. It creates more heat (and is thus more destructive!) if it forms deep pools. If Napalm tunnels into the dirt, it may not get a chance to spread out. Try contact triggers if you are having problems with fizzling Napalm.

Hot Napalm Hot Napalm is a deadly form of Napalm... much hotter and more powerful. Otherwise, it functions pretty much like Napalm.

Tracers Tracers have no destructive capability, but are useful for targeting someone without causing unwanted damage.

Smoke Tracers Smoke Tracers function as Tracers, except they leave a brilliantly colored smoke trail behind

Standard Weapons cont...

them. This makes targeting even easier. The trails created may be erased using the System Menu.

Baby Rollers Baby Rollers are the smallest of the roller family. When they hit ground, they roll downhill until reaching a valley or a tank. They then explode with the force of a baby missile. If a roller hits a shield, it will just roll off!

Rollers Rollers are functionally the same as baby rollers, but contain a warhead equivalent to a standard missile.

Heavy Rollers Heavy Rollers are non-nuclear, but deliver a payload more explosive than a baby nuke.

Earth Destroying Weapons

Earth destroying weapons are weapons which cause large (or small) amounts of dirt to be destroyed. Most of these weapons cannot directly harm a tank, though they can cause them to fall and take damage that way. Earth destroying weapons are also good for removing mountains that are in your way, or even removing dirt beneath yourself so that your tank is repositioned (perhaps away from an enemy tank!)

Riot Charges Riot Charges destroy a wedge-shaped section of dirt from around your turret. This weapon's primary use is to unbury yourself when you get covered with dirt.

Riot Blasts Riot Blasts are a larger version of the Riot Charge. They destroy a wider angle of dirt, and the thickness of the wedge destroyed is also greater.

Riot Bombs Riot Bombs destroy a spherical section of dirt wherever they detonate. They do no damage to tanks. Unlike Riot Charges and Riot Blasts, the Riot Bomb is a projectile weapon.

Heavy Riot Bombs Heavy Riot Bombs are scaled up versions of Riot Bombs.

Baby Diggers Baby Diggers are useful for removing small amounts of dirt. They tunnel when they hit ground. If they hit a tank, they fizzle.

Diggers Diggers are more powerful versions of Baby Diggers.

Heavy Diggers Heavy Diggers are the largest Digger-weapon available, but often fail to reach their full potential.

Baby Sandhogs Baby Sandhogs employ an alternate technology to achieve an effect similar to the Diggers. In addition, each tunneling warhead contains a small but powerful charge, which can destroy an enemy tank from beneath. Sandhogs are often useful for burrowing beneath enemy shields, and attacking an enemy tank directly.

Sandhogs Sandhogs contain more warheads than the Baby Sandhogs.

Heavy Sandhogs Heavy Sandhogs can potentially destroy the world, and should be used with caution...

Earth Producing Weapons

The category of Earth Producing Weapons includes weapons which take some form of compacted earth that explodes into a much larger amount of dirt. These weapons can be used to build fortifications, or bury enemy tanks. There are other clever uses which can also be discovered... be creative!

The Earth Disrupter is not technically an Earth Producing weapon, but is grouped with this category because it often has a similar tactical effect.

Dirt Clods Dirt Clods are small warheads which explode into a sphere of dirt when hitting something.

Dirt Balls Dirt Balls are a larger form of Dirt Clods.

Ton A Ton of Dirt is a very large Dirt Ball, easily capable of burying someone alive.

Liquid Dirt Liquid Dirt oozes out wherever it lands, filling holes and smoothing the terrain. It is often useful to clear the way for a Roller.

Dirt Charge A Dirt Charge expels a cloud of dirt into the air in a wedge shape.

Earth Disrupters Earth Disrupters force all dirt to settle to the ground if dirt is being suspended in the air. This weapon is only useful if you are playing with the Suspend Dirt probability set to something greater than 0%.

Energy Weapons

Energy weapons launch attacks using power stored in batteries... without batteries, they are not very effective. With many batteries, they can be very effective indeed. After you fire such a weapon, you will be asked how many batteries you want to use in the attack. Naturally, you cannot use more batteries than you have. Select the number of batteries you want to use by clicking on the appropriate box (the number of highlighted boxes indicates how many batteries will be expended). You can do this with the keyboard by pressing a number from 0 thru 9. Engage your batteries, and watch the energy go!

Plasma Blast The Plasma Blast allows you to expel radioactive energy from your tank to kill neighboring enemies.
Your turret direction has no effect on the Plasma Blast.

Available Accessories

Name	Cost	Bundle Size	Arms Level
Heat Guidance	\$10,000	6	2
Ballistic Guidance	\$10,000	2	2
Horz Guidance	\$15,000	5	1
Vert Guidance	\$20,000	5	1
Lazy Boy	\$20,000	2	3
Parachute	\$10,000	8	2
Battery	\$5,000	10	2
Mag Deflector	\$10,000	2	2
Shield	\$20,000	3	3
Force Shield	\$25,000	3	3
Heavy Shield	\$30,000	2	4
Auto Defense	\$1,500	1	3
Fuel Tank	\$10,000	10	3
Contact Trigger	\$1,000	25	3

Guidance Systems

The Guidance Systems category contains items which help you use your weapons more effectively. After you buy guidance systems, they are used by accessing the Tank Control Panel from the main playing screen.

To use a guidance system, you select it from the Tank Control Panel using the slide bar. Move the arrow by clicking on the letter representing the guidance system you want to use. The letters in parentheses following the guidance system's name are the letters used in the Tank Control Panel to represent that system, e.g. Ht will represent the Heat Guidance System. The number on the tank menu next to the guidance system indicates how many of them you own - if you own zero, then the letter will not appear. When you fire your weapon on that turn, the guidance system will take effect. After you have fired using a guidance system, the slide bar will reset to None (N), meaning no guidance system is in effect. This way, you don't accidentally waste expensive technology. This means that if you want to keep using the guidance system, you need to re-select it at the beginning of each turn.

Some guidance systems (indicated below) require you to specify a target. The manner in which that is done is as follows: After you press SPACE or double-click the mouse to fire, a small box will appear on screen reading "Choose Target". At this point, you select your target using the keyboard or the mouse. With the keyboard, you press a number between 1 and 9, or 0 (0 represents 10). This is the number of the tank you wish to aim at. Tank 1 is the leftmost tank, tank 2 is just to the right of tank 1, and so on. Note that if tank 1 is killed, tank 2 becomes the leftmost tank, and will thus be referred to as tank 1 in future turns. To choose your target with the mouse, just click the left button anywhere on the screen. The guidance system will do its best to make your weapon explode there. Choosing a tank by number is the same as clicking on the center of the base of the tank. If you right-click on your target with the mouse, it will select the center of the base of the nearest tank.

Note also that some weapons simply won't work with any guidance system. If you fire such a weapon with a guidance system enabled, the guidance system will not activate (i.e., it won't work, but it won't be used up either). Weapons which fall under this category are: MIRVs, Death's Heads, Riot Charges, Riot Blasts, and Plasma Blasts.

Heat Guidance Heat Guidance (Ht) equips your weapon with a heat detector which, when in range of any enemy tank, will guide it in a straight line to that tank. You must be able to fire your weapon well enough to get it close to the target you want to hit.

Ballistic Guidance Ballistic Guidance (B) will attempt to hit a target of your choice by determining the amount of power needed to hit the target based on your current firing angle. You must select a target for this guidance system. If your firing angle or current maximum power makes the shot impossible,

Guidance Systems cont...

this system will become confused and fire at whatever power it feels like. The Ballistic Guidance System can correct for any type of wind, but cannot correct for air viscosity.

Horizontal Guidance Horizontal Guidance (H) sends your weapons in a horizontal straight line as soon as they are even with your target. You must select a target for this guidance system.

Vertical Guidance Vertical Guidance (V) performs as Horizontal Guidance, except it operates vertically. You must select a target for this guidance system. If you can get your weapon to go over a target, this guidance system will insure that the target is hit. In other words, once your warhead is above a target, it will head straight down to that target.

Lazy Boy The Lazy Boy (L) is the ultimate guidance system. Choose your target and watch it die. If the weapon happens to hit a tank different from your target, then it will explode prematurely. (C'est La Vie!)
Note: If you do not click directly on the tank, the missile may explode next to the tank instead of on it, as the missile explodes exactly where you click. While this will no doubt damage the tank, it probably won't have the intended effect of killing it.

Defense Systems

The Defense Systems are ways to keep your tank alive longer. They include mechanisms both to prevent and to repair damage to your tank. The wise users of defense system will find their tanks lasting much longer than unprotected tanks.

Your own shields will never protect you from your own shots, though they will protect you from secondary damage caused by your own shots (e.g. heat damage from Napalm). This means if your shields are enabled and you shoot straight up (with no wind), then your missile will fall straight down, and hit and destroy your tank. Not only does this mean you're out for the round, but you will also lose points for this! And points mean money...

Parachutes Parachutes are useful as a means of preventing damage when falling. Parachutes work as follows: If you are going to fall, an onboard system computer looks down and estimates how much damage you tank will take from the fall. If your parachutes are deployed, and the safety threshold is less than the amount of damage you will take, the parachutes activate, and your tank takes no damage from the fall (unless it lands on an enemy tank.) If your parachutes are passive, or the precomputed damage is less than the safety threshold, then you will fall without parachutes, and take damage. You can choose whether the parachute is passive or deployed, and you can set the safety threshold, by using the Tank Control Panel, described elsewhere. By default, parachutes are deployed, and the safety threshold is 5.

Batteries Batteries can be used as an energy source for recharging your tank and for firing Plasma Blasts. When using a battery to recharge your tank, each battery is equivalent to %10 of your energy, or 10 points. You use batteries to recharge your tank by using the Tank Control Menu, described elsewhere.

Mag Deflectors Mag Deflectors are simple shields which exert an upward force on projectiles that are near and over your tank. If a missile falls down fast enough, the deflectors will be unable to deflect it. Mag Deflectors cannot absorb very many shots before being destroyed.

Shields Shields protect your tank by absorbing damage from explosions. In addition, a weapon which hits a shield directly will not explode, though it will damage the shield slightly.

Force Shields Force Shields deflect projectiles away from you, and are generally capable of sustaining more

damage than normal shields.

Defense Systems cont...

Heavy Shields Heavy Shields are immune to the shield failures which often plague lesser shields. They are also capable of sustaining tremendous amounts of damage.

Auto Defense Auto Defense allows you to enable any defense system of your tank each round before combat begins. Specifically, this means you can access the Tank Control Panel and any of the defensive functions on it. The cost of Automatic Defense is based on the number of rounds left, as buying them once gives you this capability for the rest of the game.

Miscellaneous Extras

The miscellaneous extras are things that just didn't fit into the other categories. They are described individually below.

Fuel Tanks Fuel Tanks allow you to move your tank, if it is equipped with treads. Each fuel tank will give you 10 units of fuel. Each unit of fuel will let you move 1 pixel, less if you are going uphill. To use fuel, choose f from the Tank Control Panel.

Contact Triggers Contact Triggers cause projectiles to explode the moment they touch something. This is equivalent to turning off the Tunneling option. To use triggers, you must go to the Tank Control Panel. Each trigger will cause one projectile to explode on contact. (Note that when using multiple warhead weapons like the MIRV, you need only use one trigger for all warheads involved in a single shot!)

System Menu

Once the game has started (after setting up all the players), you may use the Alt-S key combination at any time to bring up the System Menu. The System Menu has several options which aren't directly related to playing the game but which control certain parameters. The choices from the System Menu are:

Clear Screen This option is only significant if you are playing with traces enabled or are using Smoke Tracers. If so, then this will erase whatever traces are currently on the screen.

Mass Kill This option kills everyone on the screen, giving them all an equal portion of whatever points remained to be won in the round, but giving no single tank credit for surviving the round. This option can be used when a couple of stupid computers seem unable to kill each other within your lifetime.

Reassign Players This option lets you change some of the information you specified when configuring the players. You can change who is controlling each tank, and what their name is. (See Reassigning Players, below).

Sound This option lets you turn the sound effects on and off. It does not give you control over the flight sound effects individually. (Useful for when you put the kids to bed at night, and want them to go to sleep.)

Save Game This option lets you save the game in progress to a file, so that you can continue play later. You can only use this option from the buying menu.

Restore Game This lets you continue a game you have previously saved to disk.

New Game This stops the game you are currently playing and starts all over at the main menu. This is just a fast way or restarting the game. It is more or less equivalent to choosing "Quit Game" and restarting Scorch, except a couple of the options on the main menu cannot be modified after selecting this (they will

System Menu cont...

be grayed).

Quit Game This option does just what it says, quits the game. You will be prompted with a "Do you really want to quit?" message, and when you select yes, you will be promptly returned to DOS (or wherever you came from...)

When you are finished with the System Menu, press ESCAPE to return to your previous activity, or click anywhere outside the menu.

Reassigning Players

When you choose Reassign Players, you will be given a list of player names, and who controls them. You may change any of the settings you selected when choosing the players initially.

To change something about a player, click on the name of the tank you want to change, or press the number highlighted on the button next to the name. This will put you onto the Player Initialization Panel, which works just like it did when you choose the players initially. You may change anything you want, then select "Done" when you are finished making changes.

Saved Games

There are a couple of important points to note about saved games. The most important is that, with this version of Scorch, not all information is saved. In particular, the only information which is saved from the main configuration menus is the number of players and number of rounds. This means that you can save a game, restart Scorch, change some of those options, and restore the game with the new options. If you want to save the options, you must do so by selecting "Save Changes" from the initial menu. Remember that you may use multiple configuration files by specifying a filename when starting Scorch, e.g. "scorch myconfig.cfg".

It is also important to remember that although you can restore a game at almost any point once play has started, you can only save the game while on the Buying Menus. This is so that the playing field doesn't need to be saved (this would take up a considerable amount of disk space, in addition to being slow.) An important side effect is that if you have no money, you will be unable to save the game, as you will never get to the buying menu. In this case, you must win a round before you can save the game!

Scorch will let you overwrite an existing file to save a game, but it will always prompt you first if it is about to do so.

Finally, note that when you restore a game, it may take a moment for the computer to catch on to the fact. If there is a missile in the air, the game will not restart until it lands.

Customizing Scorch

Scorched Earth has quite an extensive set of options for configuring how the game is played. The defaults for most of these are pretty good, but as many people have different preferences, an easy system has been designed to customize Scorch to each player's taste. Each of the menus is documented below, along with a brief description of what the menu covers, and then an item by item explanation of all the options. Letters which are bold and underlined (like the 't' in this), are hot-keys - if you press that key on the keyboard it is the same as clicking on that button with the mouse. Left-clicking and right-clicking with the mouse on a button will cause the amount to decrease and increase, respectively.

Some entries require a filename. If this is the case, a blinking "caret" will appear when you select the appropriate choice. You may then type in a name, and press ENTER. The "caret" will disappear, and you can continue setting options.

When you click on Save Changes, your current configuration, or set of choices, will be written to the file scorch.cfg. The next time you start Scorch, it will use the same set of options. **YOUR OPTIONS WILL ONLY BE SAVED IF YOU SELECT THE "SAVE CHANGES" BUTTON.** Otherwise, any options you change will only last for the current game.

It is possible to use multiple configuration files. To do this, when you run Scorch, type "scorch myconfig.cfg". That will tell Scorch to use the file myconfig.cfg instead of scorch.cfg. Change the options to how you like them and click on "Save Changes". The file myconfig.cfg will be created if it didn't already exist, or updated otherwise. You can then use this configuration file whenever you want. There is no limit to how many configuration files you can have, but you must select which one you want to use each time you start Scorch. If you don't choose one, Scorch will always load the file scorch.cfg.

Feel free to experiment... you can always reset the defaults by deleting scorch.cfg, or by running fix.bat. Scorch will automatically recreate the configuration file with the built-in defaults. Scorch.cfg can also be edited directly using any word processor or editor that will edit pure ASCII files. (i.e. Sidekick's Notepad, PC Tools Desktop, etc.) (See also "Changing the Talking Tanks")

Brief Summary of on-screen controls

Counter/Cycle: These controls are used to enter numbers or to select one item from a list. Pressing the hotkey or clicking on the associated text with the left-mouse button causes numbers to increment, or selects the next item on the list. Pressing ALT and the hotkey, or right-clicking on the text, causes numbers to decrease, or choices to go to the previous item on the list.

Toggle: This is used to represent a on/off choice. If the box is checked, the option is enabled, or "on." Otherwise, the option is "off."

Text entry: This is used to enter text. When there is a blinking vertical line showing (called a "caret"), then anything you type will go into the text box. Press ESCAPE to cancel, or ENTER to accept what you typed. Clicking anywhere with the mouse is equivalent to pressing ENTER.

Button: This is used to initiate some action or activity. The most common use in the configuration menus is to pop up a sub-menu or to start the game.

Main Menu

The main menu gives you direct access to the most common options, and lets you choose between several sub-menus for more options. Any entry followed by three dots (...) causes a menu to pop up when you select it. After you have chosen any options, you can decide whether or not to save them (as explained above), and then press the S key to start the game, or click on the Start button.

Label	Range	Default	Description
----	----	-----	-----
Start			Start playing the game.
Players	2-10	2	Select the number of people who will be playing, including computer players.
Rounds	1-1000	10	Select how many rounds will be played.
Sound...			Go to the Sound Menu (See below).
Hardware...			Go to the Hardware Menu (See below).
Economics...			Go to the Economics Menu (See below).
Physics...			Go to the Physics Menu (See below).
Landscape...			Go to the Landscape Menu (See below).
Play Options...			Go to the Play Options Menu (See below).
Weapons...			Go to the Weapons Menu (See below).
Save Changes			Save any changes which you have made to the current configuration file (probably scorch.cfg).

Sound Menu

The sound menu lets you decide what kind of noises Scorch will make. With this, you can choose no sound or lots of sound.

Label	Range	Default	Description
-----	-----	-----	-----
Sound	ON	ON	If the sound is ON, then Scorch will generate sound effects using the PC's speaker. If OFF, it will shut up, making no sound at all.
Flight Sounds	POS	OFF	This option determines what sounds, if any, your weapons make while streaking through the air towards their target.
	VEL		POS makes sounds based on the height of the projectile.
	OFF		VEL makes sounds based on the current projectile velocity. POS seems to be preferred to VEL by most people.
			OFF is, of course, no sound.

Hardware Menu

The hardware options have to do with making Scorch work as best as possible on your computer. In general, the defaults for these options will be the right thing. If you find you are having a problem with your monitor, mouse, or keyboard, one of these options might be just what you are looking for! Be careful though, as improperly setting these options can also make Scorch run very poorly, or not at all. (If you're in over your head, just run the program fix.bat, and it will wipe out your configuration file. Then when you run Scorch, it will reset the defaults automatically.) Note that Scorch will, by default, use a numeric coprocessor if present. This makes everything in the game go faster. In particular, you will want a much larger firing delay. To slow everything down, you can set the environment variable 87 to 'N'. (To do this, type "set 87=N" at the DOS prompt before starting Scorch. For more info on environment variables, consult your DOS manual). You can remove this setting from the environment by typing "set 87=" at the DOS prompt.

Label	Range	Default	Description
Graphics Mode	320x200 360x480 640x480xP	360x480	This option lets you choose which graphics mode Scorched Earth will run in. Any changes you make here must be saved from the Main Menu, and will not take effect until you exit Scorch and restart it. Note that the 360x480 graphics mode may be incompatible with some VGA clones. If you are having problems, try the 320x200 mode. 640x480xP mode is only compatible with the Western Digital Paradise VGA with 512K memory. If you choose this mode, and your system is not compatible, Scorch will hang. To fix this problem, simply delete the file scorch.cfg.
Bios Keyboard	ON OFF	OFF	This option can be safely ignored, unless your system locks up in strange ways while playing Scorch. It forces Scorch to use the BIOS to access the keyboard, rather than accessing the keyboard directly. This slows down the response of the game while playing, and should be avoided.
Small Memory	ON OFF	OFF	This option is for players who have too little memory for all of Scorch's options. By selecting this, Scorch will disable some of the extended features, and use less memory. In particular, the awesome nuclear explosions will be much more bland.

Hardware Menu cont...

Pointer	None Mouse Joystick	Mouse	This option tells Scorch whether you want to use a mouse, joystick, or just your keyboard (the keyboard works whether or not use are using a pointing device). If you don't have a mouse or joystick, Scorch will not try to use one. (But wouldn't this be a good time to buy one?) To use a mouse, Scorch requires a Microsoft compatible mouse driver. To use a joystick, Scorch requires a BIOS which supports interrupt 15h (most new machines do).
Mouse Rate	.5-5.	.5	This option lets you control how fast the cursor on screen moves compared to how fast you move the mouse. High numbers mean fast movement!
Joystick Rate	.1-10	1	This option controls how fast the cursor on screen moves compared to how far you move the joystick. High numbers mean fast movement!
Joystick Threshold	0-50	8	This lets you select how far you must move your joystick from the center before it registers motion. If this number is too small (like 0), the cursor will probably wiggle and dance.
Firing Delay	0-500	20	This option determines how long it takes the computer to draw projectiles when they are fired. If you like suspense, make it slow (high numbers). If you want to get on with the game, make it fast (low numbers).
Falling Delay	0-1000	10	This lets you determine how fast the tanks fall on screen. If you don't like to wait, set this to zero.
Calibrate Joystick			Selecting this option causes a window to pop-up which lets you calibrate your joystick. Use this if the cursor drifts even when your joystick is centered. To calibrate, set your joystick in the center position and press the fire button. Note that if you do not select "Save Changes" after calibrating the

Hardware Menu cont...

joystick, you will probably need to re-calibrate it each time you play.

Economics Menu

The economics menu has options that control how money will affect the game and what methods of scoring will be used.

Label	Range	Default	Description
-----	-----	-----	-----
Interest Rate	0-.30	.05	If you start a round with unspent money "in the bank", then you will earn interest on that money. The interest rate determines what percent you earn. This rate also affects the cost of repeated-use items such as the Auto-Defense System.
Cash at Start	\$0-\$1,000,000	\$0	This determines how much money each player starts with. If it is non-zero, players will have a chance to buy items before the first round starts.
Computers Buy	ON OFF	ON	This determines whether or not computer-controlled tanks can buy items with their money. If you are having a hard time beating them, cheat a little and try turning this option off.
Free Market	ON OFF	OFF	This option will simulate a free market economy while you play Scorch. This means that as the games progresses, weapons that people buy frequently will become more expensive, while weapons which no one is buying will become cheaper. If you are using this option, Scorch will create a file scorch.mkt, to track the market from game to game. Delete this file to reset the defaults. This option is often useful for stimulating new strategies (Necessity is the mother of invention.)
Scoring Mode	BASIC STANDARD GREEDY	STANDARD	This determines how the game will be scored. BASIC scoring gives you points only for killing tanks and surviving a round. STANDARD scoring gives you less points for actually killing a tank, but gives you points every time you damage a tank or shield. GREEDY scoring works like STANDARD scoring, but the final rankings at the end of each round are based on the Net

Economics Menu cont...

Worth of your tank, e.g. how much cash you have in the bank plus the depreciated value of all weapons, etc. in stock ("He who dies with the most toys wins").

Physics Menu

The Physics Menu lets you control different aspects of reality, such as the atmosphere and gravity of the planet you are fighting on, and whether the edges you see on screen have any meaning to the game, or are just windows onto a larger playing field.

Label	Range	Default	Description
Air Viscosity	0-20	0	This determines whether or not the air is viscous, i.e. does it slow down projectiles moving through it? If you are using viscous air, ballistic guidance will not work properly, nor will some of the computer players.
Gravity	.05-10	.2	This determines the force of gravity in pixels/sec
Suspend Dirt	0-100	0	This number allows dirt to remain suspended in the air some of the time. It is a percentage chance, per shot, that all the dirt on screen will fall. It can be used on slow computers to speed up the game, or to introduce more variety. Earth Disrupters are only interesting with this option enabled.
Tanks Fall	ON OFF	ON	If this is turned off, tanks will not fall when the ground is shot out from beneath them. Not very realistic, but an option nonetheless.
Borders Extend	0-10000	75	This option specifies how far off-screen projectiles should be tracked before being counted as a "miss." If this is zero, no missile will ever return to the screen or explode off the edge, even if the wind would have brought it back on-screen. A high enough value here will have the computer track any projectile until it hits somewhere, but might add unnecessarily long pauses as it tracks these projectiles.
Effect of Walls	CONCRETE RUBBER SPRING WRAP RANDOM ERRATIC	RUBBER	This option is only meaningful when the walls exist. CONCRETE walls will block shots from going off screen in any direction. PADDED walls reflect shots, but absorb some of their energy first. RUBBER walls will cause projectiles to bounce off them (Poolsharks take

Physics Menu cont...

advantage of this).

SPRING walls are similar to RUBBER walls, but they give the projectile a "kick" when they reflect them, much as pinball machines do.

WRAPAROUND edges cause the left and right edge to wrap around, i.e. a missile going off screen to the right will come on screen to the left.

RANDOM tells the computer to pick one of the four methods at the beginning of each round.

ERRATIC tells the computer to choose a method before each shot.

You can tell what the current state of the walls is by their color:

Gray:	no effect
White:	CONCRETE
Green:	PADDED
Red:	RUBBER
Cyan:	SPRING
Yellow:	WRAPAROUND

Landscape Menu

The Landscape Menu lets you control the environment in which you will fight. The first few options allow you to set various characteristics determining how the weather will behave and what the sky will look like. The last four options determine how the land on which you fight will appear. Using these options, you can choose low, rolling hills, steep, craggy mountains, and anything in between.

Label	Range	Default	Description
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Sky	PLAIN	RANDOM	This determines how the background sky will look. RANDOM tells the computer to decide at the beginning of each round what kind of background it should use. Note that some skies are hostile, and will launch their own attacks, such as lightning.
	STORMY		
	STARS		
	SHADED		
	SUNSET		
	RANDOM		

Max. Wind	0-500	200	This determines the maximum wind velocity. If 0, there will be no wind.
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Changing Wind	OFF	OFF	If this is enabled, the wind will change slightly between each shot. This can be a real pain when targeting someone, especially if you aren't paying attention.
	ON		

Hostile Environment	ON	ON	If this is turned OFF, then the "Hostile" actions of some of the backgrounds will become non-hostile. This means that they will act the same, but will cause no damage to tanks.
	OFF		
	ON		

Bumpiness	0-100	20	This determines how smooth or bumpy the landscape will be.
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Slope	0-100	20	This determines how steep hills and valleys will be.
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Flatten Peaks	ON	OFF	When on, this forces the hills to flatten out at a certain steepness, keeping them from being too craggy.
	OFF		

Random Land	ON	OFF	If this is on, the above options are set randomly by the computer at the beginning of each round. This allows for a wide variety of terrains. (i.e. if you choose this option, none of the above options have any meaning.)
	OFF		

Play Options Menu

This menu controls different aspects of the game, and what controls will be available.

Label	Range	Defaults	Description
----	-----	-----	-----
Fast Computers	ON OFF	OFF	If this option is on, then whenever there are only computers attacking one another, the pace of the game will speed up until humans are playing again. This can speed up the end of a round significantly.
Talking Tanks	OFF COMPUTERS ALL	OFF	If this option is set to COMPUTERS, computer-controlled tanks will "talk" to you by flashing messages on screen, like comic characters. If it is set to ALL, then all tanks will print messages, regardless of who controls them. OFF means nobody talks.
Talk Probability	0-100	100	This determines how often tanks say something before they fire. 100 means they talk 100% of the time.
Attack file	Any File	talk1.cfg	This should be the name of a file which contains messages tanks will say when attacking.
Die file	Any File	talk2.cfg	This should be the name of a file which contains messages tanks will say when they die.
Mode	Synchronous Simultaneous Sequential	Sequential	This option controls how you play the game. In sequential mode, the default, players takes turns one after another. In simultaneous mode, all players and computers can aim and fire at once. In synchronous mode, all players aim their weapons at the beginning of each round, and all shots go off at the same time. For more information, see "Simultaneous Mode," and "Synchronous Mode" later in this manual.
Status Bar	ON OFF	OFF	This enables the status bar, which is a second bar beneath the normal one you see when playing Scorch. This bar lets you access most of the things the Tank Control Panel does.

Play Options Menu cont...

Play Order RANDOM RANDOM This controls the order of play.
 LOSERS-FIRST RANDOM means each turn the order in
 WINNERS-FIRST chosen randomly.
 ROUND-ROBIN LOSERS-FIRST means that whoever is in
 last place always goes first, and the
 winner goes last.
 WINNERS-FIRST is the opposite of LOSERS-FIRST.
 ROUND-ROBIN means the play order is
 random, but the first shot each round
 goes from one player to the next, in
 order (i.e. if Player 1 went first in
 Round 1, Player 2 goes first in Round
 2, and so on).

Changing the Talking Tanks

If you want to change the message files, use any editor that will edit straight ASCII files, or use your favorite word processor, and when saving the file, use the ASCII option. (Sometimes this is called print to disk, or printed text.) The attack file is called talk1.cfg, the die file is talk2.cfg. Each comment should take up one line in the file, just add new comments to the end. If a comment appears twice, it will be used twice as often (and so on). Blank lines provide for the tanks to say nothing sometimes.

If you're feeling really creative, you can just make up your own file from scratch, and type its name into the Attack file and Die file options. (NOTE: scorch.cfg can be edited in a similar option). If you have any favorite phrases or comments, feel free to send them to the author for possible inclusion in a future release!

Weapons Menu

These options let you customize which weapons you want to play with and how they work. By default all weapons are allowed, but some people prefer to have a more restricted set of choices. Scorch caters to all people.

Label	Range	Default	Description
Arms Level	0-4	4	This lets you disallow the use of certain items from the game. Using an Arms Level of 0 is often useful for beginners, so there aren't so many options to deal with. Some people just don't like using the large weapons at all. To see what items belong to what Arms Level, consult the Equipment List. The Arms Level also affects available accessories.
Bomb icon	INVISIBLE SMALL BIG	BIG	This lets you choose what the projectile will look like when you fire it: either a small dot, a slightly larger dot, or no dot at all. This is just a matter of preference, though invisible missiles are mighty hard to aim!
Tunneling	ON OFF	ON	If tunneling is OFF, weapons explode the instant they hit dirt (or anything else). If it is ON, they will tunnel when they hit dirt, burrowing into the ground before exploding. They might even come out the other side of a small enough pile of dirt, though at reduced velocity. If you play with tunneling ON, you can always buy Contact Triggers which force any projectile to explode on contact.
Scale	NORMAL MEDIUM LARGE	NORMAL	For the blood-thirsty players, Scorch can be "scaled up", so that the weapons are more destructive than usual. MEDIUM is somewhat larger than NORMAL, and LARGE is yet another step larger. Note that some of the graphics are not as nice when the game is "scaled up," due to memory constraints.
Trace Paths	ON OFF	OFF	If this is on, each projectile will leave a trail on the screen of it's path, in the color of the firing tank. This can be useful in targeting, as you don't have to remember where your last shot hit. When using this option, you can use the Clear Traces option from the

Weapons Menu cont...

System Menu whenever the screen gets too cluttered. Smoke Tracers have a similar effect.

- Extra Dirt ON OFF This controls how much dirt the Dirt
 OFF Charges let out. If you like lots of
 dirt, you can use this. It's fun but
 can really slow the game down. (It also
 mean you should pay extra attention to
 buying earth handling weapons!)
- Useless Items ON OFF If this is OFF, then items which have no
 OFF effect on the game will not appear on
 the buying menu. (For example Smoke
 Tracers have no purpose if you are
 playing with Trace Paths set to ON.)

Archaic Options

These options cannot be selected from any of the normal menus, but are still supported for backwards compatibility. You can only change them by editing the file scorch.cfg. These options may not be supported in future versions of Scorch. If you like them, and think they should stay, write the author and let him know.

Label	Range	Default	Description
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Impact Damage	ON OFF	ON	If this is on, tanks take damage from a fall when they hit the ground. If it is off, tanks take damage as they are falling. This isn't an important distinction, just a matter of preference. Total damage done is the same in either case.
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Simultaneous Mode

This is a brief summary of the differences between Simultaneous mode and normal play. The main difference is that many people (and computers!) will be moving at once. Because there is only one keyboard, and everybody is using it simultaneously, it is important that each player have a unique key for everything he or she wants to do. For this reason, you probably wouldn't play Simultaneous mode with more than three players. When you assign keystrokes at the beginning of the game, try to keep each player to their own section of the keyboard, so that their fingers don't get crossed.

In simultaneous mode, whoever hits the keyboard fastest moves most often (the computers move at a medium sort of speed regardless). When someone fires, the action is suspended until the missile hits somewhere (this will probably change in a future version of Scorch).

The status bar on top of the screen gives much less information in Simultaneous Mode, because all players are sharing the screen also. Each tank's current firing power and weapon are displayed across the top bar... the colors will match your tanks' colors. Also, when you increase power, your tank will flash brightly. When you decrease power, your tank will flash dark. Changing weapons causes your tank to flash red. These are additional clues you have about what your tank is doing, but be careful not to waste good weapons!

If you have the status bar enabled, you will also be able to see each player's remaining power and shield strength, if any. There are no shortcuts on the status bar in simultaneous mode.

When all players but one are dead, the end of round status will come up as usual, and the players with cash will have an opportunity to buy things just like normal Scorch. When the round begins again, though, watch out!

The special keys i, t, and r are not supported in Simultaneous Mode, and neither is the mouse. Thus, it is impossible to use the Tank Control Panel. You can only use Shields if you have an Automatic Defense System. Fuel, Contact Triggers, and Guidance Systems are not useful at all. Also, unless you purchase an Automatic Defense System, parachutes will always be deployed, and you will be unable to change the threshold. This is so that each player needs only six keys.

Since you cannot access the Tank Control Panel, batteries also work somewhat differently than normal: anytime your tank's power falls below 91 but the tank is still intact, as many batteries will trigger as necessary to bring your power above 90, up to however many you have (your tank will flash green when this happens).

The System Menu functions as it does during normal play.

Synchronous Mode

This is a brief summary of the differences between Synchronous mode and normal play. The main difference is that instead of shots going off between player's turns, all shots are fired only after all the players have decided where they are going to shoot. After each player has chosen a power and angle, "fire" your weapon as usual. Instead of firing the weapon, your tank will be highlighted, indicating that it is ready. When all the tanks are ready, all shots go off at once, wreaking their respective damage. As soon as the dust settles, everyone who survived gets to choose another shot, and so on, until the round is over.

This mode is somewhat more fair than the normal, sequential mode, as all players have an equal number of shots. Note that in this mode, it is often advantageous to go last, because then you'll know where your foes are aiming!

Registering Scorch

It is my hope that Scorched Earth will provide a great source of enjoyment to all age groups. This version of Scorch should solidify all the improvements made so far, and lays the groundwork for significant future enhancements. I am releasing this game as shareware in order to gain as large an audience as possible. Scorch is not crippleware. Each and every copy is a fully functioning game.

If you would like to register Scorch send 10 dollars to the author, at the address listed below. By so doing, you are supporting the further development of Scorch. Users who register will receive a password that bypasses the start-up message and tells the tanks not to harass you verbally about registering.

Anyone interested in Scorch, or with ideas for improvement, or questions for support, is encouraged to contact me as described below. Please do not call me at home. The author makes no warranty about the fitness of Scorch for any purpose, nor does he guarantee that it will not crash your system. Nevertheless, every attempt has been made to insure that Scorch is a robust, user-friendly game.

The most recent version of Scorched Earth will be kept on CompuServe, under the GAMERS forum, and the games library of the IBMNEW forum. You may get it directly from one of these sources, or through someone else who has CompuServe, or Scorch. By the time you read this, Scorch should also be available on most major bulletin boards. Minor bug fixes and other goodies may appear from time to time on one of the following BBSes:

(619) 747-3041 Escondido, CA
(708) 355-6942 Micro Overflow, Naperville, IL

Or, you can check your favorite local BBS. And why not upload it there, if they don't have it. Share it with your friends.

Scorch was written using Borland C++ and Turbo Assembler. The illustrated version of this manual was prepared using Microsoft Word for Windows and Microsoft Paint, and the ASCII version was automatically generated using a custom RTF-to-Scorch-Manual filter.

About the Author

Wendell Hicken, a.k.a Sprig, was born March 14, 1967. He graduated from Caltech with a B.S. in Computer Science in 1991, and is currently working for ParaSoft Corporation, a Pasadena-based firm specializing in tools for Parallel Programming. Scorched Earth is in no way affiliated with Caltech or ParaSoft Corporation.

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