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This is a puzzle game. You must get your tank to the flag in every level. Your tank can move in four directions and can fire a laser that is used to move [objects](#). The amount of moves and shots it takes to complete a level are recorded in a high score list. The scores are then compared with the your current "Global High Score" file. You can get a current copy of the global high score file on LaserTank web site. If you beat one of the scores by making less moves to finish the level, then send me an e-mail with your "LaserTank.hs" file attached. I will update the website with your score; however, you will have to prove your score by [recording](#) the level and sending the playback file to me also.

LaserTank Version 4.1 has **2030 Levels** to play. They are NOT in order of easy to hard, but the order I received them. So if you have played before then just start playing at the level that you left off at. Also if a level is too hard then just skip the level, you can always play it later. You can now set the program to skip the levels that you have already played. So you can always load level 1 and press **F2** (new game) to play the levels that were not completed the first time through.

This game comes with a [Level Editor](#) so you can make more levels. The software program is HelpWare. You can use LaserTank for free, but I'm asking for your help. I want you to [make a new level](#) using the Level Editor, and send it to me. I will update the software every now and then and add the best of the levels that you send me.

You can E-mail & send your levels to me at: [lasertank@globetrotter.net](mailto:lasertank@globetrotter.net)

The LaserTank Web site can be found at:  
<http://www.jccontrols.net/laser>

There you can find the newest version of the game, more graphics files, & temp level files with more levels to play. Also you should get the latest Global High Score file as I will not be updating the software with it.

## Editor Instructions

The editor is easy to use. Just click with your mouse on an object type at the bottom right-hand corner of the screen, then click in the map screen where you want the object to be placed. The right mouse button will select a second object and place it on the map. You can hold the Control key and then left click on an object in the map screen to rotate it. Only the Anti-tanks, Tank movers, Mirrors & Rotary mirrors can be rotated.

You can save your level in a file by selecting [Save](#) from the Level menu. You will then be asked to select a level number. If you select the highest number, you will be writing a new level. Anything else will replace the previous level. There is also a [Clear High Score](#) checkbox on the save window. When this is checked the high score for the level you are saving will be cleared. Selecting [Close Editor](#) will play the level you just edited. After returning from the editor, the high score features will be turned off temporarily until new levels are loaded from the level file. If you [make your own levels](#) you should store them in their own file. Then use the [Load](#) command to open the file.

When writing levels remember to set the suggested difficulty and the [Hint](#) from the menu. Also, fill out the title and author fields.

**Title:** The name of the Level. It will be displayed to the right of the game window when the level is loaded.  
*30 characters max*

**Author:** Put your name or nickname here, it will be displayed when the level is loaded.  
*30 characters max*

**Hint:** This is the message that will be displayed if the menu item is pressed.  
*255 characters max*

**Difficulty:** Select one of the difficulties; kids, easy, medium, hard or deadly.

See [Writing Your Own Levels](#)

## Writing Your Own Levels

Level writing is hard but can be more fun than playing LaserTank. Here are a few pointers on writing levels:

1. Always play back the levels looking for short cuts. It is hard to see them sometimes because your mind is studying the correct way to finish the level and not looking for alternate solutions. The best way to do this is to have someone else play your level.
2. Not every level has to be super hard, but a good level should have over 50 moves.
3. Do NOT make levels where you have to jump off of a tankmover to do something. If you want a player to get off in the middle of a tankmover, then make them shoot a block or something onto it to block the tank.
4. Think about how the level looks, some of the coolest levels look like works of art.
5. Try to make your level fun, nobody wants to play a 2,000 move level where all they do is move blocks around.
6. Deception – Try to fake out the player. Add game objects that are not needed. Be careful that you don't make a short cut with your deceptive objects.
7. One really good level is better than 20 easy levels, I don't want you to send me 100 levels that are 10 moves each.
8. As you play back your levels try to find ways to make them harder.
9. Don't forget the Hint. If you can not think of one, then just enter the number of moves and shots the level takes. This in itself is of great help in solving some levels.
10. Have Fun :)

When writing levels you should **not** save them in the "LaserTank.lv" file. Create your own file instead. Then you can send me the file and I will play the level and send you feedback. If you write a couple of levels put them in one file. Most good levels will get added to the next revision of the game.

Please send the files to me as attached e-mail to: [lasertank@globetrotter.net](mailto:lasertank@globetrotter.net)  
Please also send me your levels' solutions "LPB files" (See [Recording & Playback](#))

## Recording & Playback of LaserTank Levels

Level's can be recorder for future playback, also long levels can be saved and then finished later. Playbacks are fun to watch and a great tool for writing levels. Each recording is stored in its own file. If you turn on AutoRecord every level you play will be automatically recorded.

### Recording a game

To record a level, either have AutoRecord turned on or get to the level you want to record, and select [Record Game](#) from the Game menu. You can also select [Record Game](#) after you have started a level and the level will not reset but will record the whole level. The window title will say RECORDING to show that it is recording. Next, play the game as you normally would. It is okay to undo moves, restart the level and save and restore positions while recording. The only thing you can not do is [Restart Undo](#). The recording will be terminated if you select [New](#), enter the editor, skip to the next level or select [Record Game](#) a second time. You can select "Record Game" after you have started a level, the level will be recorded the same as if you started recording from the beginning of the level.

If you are playing a long level or just want to save the game where you are, you can do it in two steps. First turn on the recording Mode [F5], then Select [Save Recording](#) [F6]. This will save the level where you are. Then when you come back all you do is select [Resume Recording](#) [F8] and the game will replay to the point you saved it at. Note: the recording mode will now be on.

When the level is completed you will be asked for your name and then a file name. At this point the playback file will be written to disk.

This playback file contains:

1. The recording persons name.
2. The level name
3. The level number
4. All of the moves, turns & shots you made while doing the level.

### Playback of a recorded LaserTank game

To playback a game, first make sure you selected the correct level data file ("LaserTank.lvl" or something else if you are playing with your own levels). Select [Playback game](#) from the Game menu. You will be asked to load a playback file. The game level will be loaded and the Author of the recording will be shown. If the correct level is shown then press ok, if something is wrong then press cancel.

The Playback Game dialog should now be opened. You can select the playback speed; fast, slow, or single step. Press [Play](#) to start the playback. The play button will change to pause which can be pressed to pause playback. There is also a [Reset](#) button if you want to start from the beginning again. The speed can also be changed while the game is playing; this is good for slowing down playback at critical places.

When you are done, press the close button and the playback game dialog will be closed. You will need to restart the level to play it.

## Game Menu Commands

### Main Game Menu

Command	Keyboard Short Cut
<u>Game, New</u>	F2
<u>Game, Load Level</u>	L
<u>Game, Skip Level</u>	S
<u>Game, Previous Level</u>	P
<u>Game, Last Level Played</u>	BkSp
<u>Game, Open Data File</u>	O
<u>Game, View High Scores</u>	V
<u>Game, Global High Score List</u>	G
<u>Game, Record Game</u>	F5
<u>Game, Save Recording</u>	F6
<u>Game, Resume Recording</u>	F8
<u>Game, Playback Game</u>	F7
<u>Print Gameboard</u>	
<u>Move, ReStart</u>	R
<u>Move, Undo Last Move/Shot</u>	U
<u>Move, Save Position</u>	Ctrl+C
<u>Move, Restore Position</u>	Ctrl+V
<u>Move, Replay</u>	F4
<u>Option, Animation</u>	A
<u>Option, Sound</u>	N
<u>Option, Remember Last Level</u>	
<u>Option, Skip Completed Levels</u>	
<u>Option, AutoRecord</u>	
<u>Option, Disable Warnings</u>	
<u>Option, Size</u>	
<u>Option, Difficulty</u>	D
<u>Option, Change Graphics</u>	Ctrl+G
<u>Editor</u>	F9

### Editor Menu

Editor, Clear Field  
Editor, Load Level  
Editor, Save Level  
Editor, Save As  
Editor, Close Editor

### Hint

Shift, Right, Left, Up & Down  
Difficulty

## Keyboard - Description of Key's

### Game Playing Keys :

Left Arrow	Move/Aim left
Right Arrow	Move/Aim right
Up Arrow	Move/Aim up
Down Arrow	Move/Aim down
Space Bar	Fire Laser Cannon

### Control Keys :

F1	Quick Help
F2	<a href="#">New Game</a>
Alt - F4	Exit
F4	<a href="#">Replay</a>
F5	<a href="#">Record Game</a>
F6	<a href="#">Save Recording</a>
F7	<a href="#">Playback Game</a>
F8	<a href="#">Resume Recording</a>
F9	<a href="#">Editor</a>
Ctrl+C	<a href="#">Save Position</a>
Ctrl+G	<a href="#">Change Graphics</a>
Ctrl+V	<a href="#">Restore Position</a>
BkSp	<a href="#">Last Level Played</a>
A	<a href="#">Animation</a>
D	<a href="#">Difficulty</a>
G	<a href="#">View Global High Scores</a>
L	<a href="#">Load Level</a>
N	<a href="#">Sound</a>
O	<a href="#">Open Data File</a>
R	<a href="#">ReStart Level</a>
S	<a href="#">Skip Level</a>
U	<a href="#">Undo Last Move/Shot</a>
V	<a href="#">View High Scores</a>

## Game Objects

These are the objects you will find in the wonderful world of LaserTank. They might look different if an alternate graphics set is loaded.



### DIRT

This is the ground. You can move on it, push things over it and shoot over it.



### TANK

This is you. You can move in four directions and fire a laser. Tanks can not travel over water, and can not drive through solid objects other than the Flag.



### FLAG

This is the target that you must reach to end each level.



### WATER

The only thing that can swim in this game are the movable blocks, every thing else will sink. You can shoot over water.



### SOLID BLOCK

This type of block can not be shot through, destroyed or moved.



### MOVABLE BLOCK

This type of block can be moved by being shot at with a laser. If it is pushed into water, it will form a bridge. A bridge acts like dirt.



### CRYSTAL BLOCK

This type of block can not be destroyed or moved. You can shoot through it, but anti-tanks can not see you through the crystal block.



### BRICKS

This type of block will be destroyed if you shoot it.



### ANTI-TANK GUNS

These are enemy laser guns that will shoot you if you get in front of them. If you fire at one of their sides you can push them around; even into water. If you shoot one of them in the gun barrel without them seeing you, you will destroy them.



### MIRRORS

These can be used to deflect a laser shot when fired on the mirrored surface. If you shoot the mirror base, the mirror will move.



### **ROTARY MIRRORS**

These can be used to deflect a laser shot when fired on the mirrored surface. If you shoot the mirror base, the mirror will rotate a quarter turn.



### **TANKMOVERS**

These will quickly move your tank from one place to another. They won't move anything else, i.e., mirrors, blocks and anti-tanks. You will NOT be able to fire your laser cannon or move while riding on the tankmover. If you need to shoot something while on them or get off in the middle of one, then push a block onto the tankmovers to stop before you get on it.



### **TUNNELS**

Either the tank or any movable object can enter a tunnel. When you enter one of them you will exit the other end. There can be up to 8 pair of tunnels, they are designated by their color. If there is not a matching color tunnel, then do not enter it, it is a black hole. If there are more than two tunnels with a matching color, then it gets real interesting.



### **ICE**

Ice is very slippery. Anything that can move will slide across the ice until it hits an object. This includes the tank.



### **THIN ICE**

It is just like Ice but once something passes over it, it will turn to water. The tank can slide over the thin ice without any problems but there is no standing on thin ice or it will break and you will fall in.



## LaserTank Revisions

### 1.0 Original LaserTank program ( 1995 some time ?? )

Laser tank game written using Turbo Pascal 1.5 for windows

#### 1.0.2 Minor Revision (11/97)

Added Levels Total of 18  
Cleaned Up Internal stuff

#### 1.1 Minor Revision (11/97)

Made it so you can't shoot from the Tank Movers  
Added Help File  
Added Control keyboard commands  
Changed [Load Level](#) Dialog to list levels by name & number  
Add Levels Total of 40

### 2.0 Major Revision (5/98 )

Animated the anti-tanks  
Animation will now run smother on slower machines.  
Added Commands : Open Data File, Undo, Save Position,  
Restore Position & Remember Last Level Commands.  
Rewrote the program using only the windows API  
( was using Borlands Object Windows )  
Totally rewrote the Editor, it is now full size.  
Add Levels : Total of 78

#### 2.1 Minor Revision (1/99)

Converted [Undo](#) to a 10 level deep undo.  
Add Levels: Total of 151

### 3.0 Major Revision (5/99)

Converted [Undo](#) to a 25 level deep undo.  
Modified logic: You can NOT move while on a tankmover.  
Removed Sound Unit ( Did any one actually leave it enabled ).  
Modified internal graphics engine (Now with 3 [sizes](#))  
Added [High Score](#) List  
Added [Recording & Playback](#) features.  
Added Commands; View High Score, Record Game,  
Playback Game, & Size (small, medium & large).  
Added 2 New [Game Objects](#); Crystal Blocks & Rotary Mirrors.  
Fixed bug in Editor where the tank is not saved in the proper location.  
Added Right Clicking in the editor ( second object ).  
Program remembers the last size & screen location.  
Add Levels: Total of 300

#### 3.1 Minor Revision (3/2000)

Converted [Undo](#) to a 50 level deep undo. ( but that's it )  
Added Sound Unit back in ( *Yes people did like it* ).  
Added [Global High Score List](#).  
Modified Record Buffer to 60000 steps.  
Modified Playback to find level by name if level has moved within the file.  
Modified [Load Level](#) window by adding Search functions.  
Modified Editor Save Window to ask if high score should be cleared.

Added [AutoRecord](#)

Created 5 Categories of [Difficulty](#) for levels

Added [Skip Completed Levels](#) function

Moved all preferences from the win.ini file to ltank.ini

Added more [Keyboard](#) shortcuts.

Added Commands; Global High Score, [Save Recording](#), AutoRecord,  
Difficulty, Skip Completed Levels.

Add Levels: Total of 770

#### **4.0 Major Revision (5/2001)**

Rewrote game in "C" and used lcc-win32 to compile it in 32 bit code.

Added New Sounds, Also more of them.

Added three new objects; Tunnels, Ice & Thin Ice

Changed graphics engine.

New graphics.

Mirrors & anti tanks are now transparent.

User Graphics can now be loaded.

LTG files can be used to change the game appearance.

Converted [Undo](#) to an Unlimited size & fixed Restart Undo.

Added [Replay](#) command.

Added [Keyboard Buffer](#).

Modified [Game Record](#) operation.

Added Mouse operation for game play.

Global High Score file now will not be updated when a score is beaten.

Add Levels: Total of **2030**

## New

Starts the Game at level 1. If [Remember Last Level](#) is on, then the last level played will start.

## ReStart

Starts the current level over again. This can be Undone with the [Undo](#) command.

## Undo Last Move/Shot

Takes back the last move or shot. You can press undo all the way back to the beginning of the level if you want. If you are playing the game and you select [Restart](#), you can also Undo the Restart command. This is good for checking to see how the level looked before you started it. If you press any key after a "Restart Undo" the undo buffer will be reset and you will not be able to undo it.

## Save Position

Saves the level so you can restart the level from the saved position.

This is useful in long levels, so you don't have to start all over again if you try something that doesn't work. "Save" only saves to memory NOT to disk. Once the program is closed the saved position will be lost.

## Restore Position

Restarts the level from where it was saved from the previous [Save Position](#).

## Load Level

This will display a list of all levels for the current file. The levels are listed by number and title. Select the level you want to play by either clicking on the level name or type in a number.

Also there is a [Search](#) button to allow you to list only levels with matching Authors, Level Names or difficulty type. The match is NOT case sensitive and partial search word are OK.

## Previous Level

If you want to go back a level use this. It will filter levels by difficulty and the Skip Complete Flag. So you might not get the level you thought you would.

## Disable Warnings

Enable this if you are getting tired of seeing the "Game in Progress" window every time you change a level while the game is in progress. If you are playing a **Big Long Level** it might be a good idea to turn Warnings back on.

## Last Level Played

This will take you back to the last level played. The Last Level Played list will not be remembered when the game is turned off. Also if you change Level Files, the list will be reset. This list is only 10 levels long.

## Open Data File

The default data file is "LaserTank.lvl" but you can make your own levels and store them in their own file. This command will select the other file.

Also see the *Editor Level Load* command.

## Skip Level

If you don't like the level you are on, if it is too hard, ( **boo hoo** ) you can skip to the next level. You can always play the level later.

## View High Scores

This is a list of high scores. Only the levels you have played and won will be on this list. If you play the level again and do it in less moves, or the same moves but less shots, the list will update your new score.

There is one high score file (LaserTank.hs) per ".LVL" file.

## Size

Sets the game size to small ( 24x24 Bitmaps), medium (32x32 Bitmaps) or Large (40x40 Bitmaps). **Small** is the normal size, **medium** is for a 800x600 resolution screen & **large** is good for a 1024x768 size screen.

## Animation

Turns On / Off the game animation. If the game is running slow you can turn this off to speed up the graphics engine.

## Remember Last Level

Turns On / Off the *Remember Last Level* option. When this is on, the program will remember the level number & file name of the last level played. The Load Level & Skip commands will also affect the saved level. To resume from the saved level just press F2.

## Sound

Turns On / Off the game sound effects.

## AutoRecord

Turns On / Off the game AutoRecord. AutoRecord allows you to automatically record each level as you play them.

## Difficulty

Allows you to select levels by their difficulty rating. When you finish a level , press **Skip** or Select a new game, the program will skip levels with difficulties that are not selected. This has no effect on loading a level directly.

You can check as many as you want. They are:

Kids	Very easy levels that kids should enjoy playing
Easy	Easy levels but you might have to think a little
Medium	These levels are good levels that will take some thought
Hard	These levels will take a lot of thinking
Deadly	What do you think, some of these are over 2000 moves

## Difficulty

Select one of the difficulty ratings for your level.

Kids	Very easy levels that kids should enjoy playing
------	---

Easy	Easy levels but you might have to think a little
Medium	These levels are good levels that will take some thought
Hard	These levels will take a lot of thinking
Deadly	What do you think, some of these are over 2000 moves

### Hint

This will display a hint for the current level. In some levels the hint is just the number of moves & shots you need to finish the level. Some levels have no hint at all.

### Clear Field

This will clear the screen, Title, Author & Hint. It will put a default tank at the bottom of the screen.

### Load

To load a level, it will ask for a file name and a level number.

### Save

This will Save the current Level at the current position.

### Save As

This will first ask for a file name, then it will ask for a level number. It will default to the previous level file name & number. There is also a check box that if checked will clear the high score for this level

### Hint

Enter a hint into the edit box. In some levels the hint is just the number of moves & shots you need to finish the level. Some levels have no hint at all.

### Skip Completed Levels

With this turned on, any time you press "S"kip , F2 (New) or complete a level the program will advance to the next unfinished level. It uses the Local High Score list to determine if the level has been finished.

This has no effect on loading a level directly.

### Global High Score List

This will show the global high score list for the level file you are playing. It will also show the local high score list as well. Levels with an asterisk in front of the level name, have been beaten by the local HS list.

You can download the newest versions of the global high score lists from the LaserTank WEB site

<http://www.jccontrols.net/laser>

### Close Editor

This will return you to game mode and play the level you were editing. It will ask you if you want to save the level. If you

press no, you can still play the level. Just hit ReStart before you re-enter the editor.

### Save Recording

This function was added for those long levels. If you are recording a level but don't have time to finish the recording, you can select [Save Recording](#) and the recording will end.

A recording that has been saved before reaching the flag can be continued by playing back the recording or using the [Resume Recording](#) function.

### Replay

This will reset the level and then Replay all of the moves you took. When the replay is done, you should be back to where you were before the replay.

Note: You can stop the replay while in progress by pressing Undo. You can input moves and shots as fast as you want. The game will store the moves/shots in a buffer and process them as soon as possible.

### Shift Playfield

This can be used in the editor to shift the whole game board in any of the four directions. The board will wrap around to the other side.

### Resume Recording

This will use a playback file to return you to the position you were at when you saved using [SaveRecording](#). The game will play at lightning fast speed, If you actually want to watch the game then use [Playback](#) Game. The Recording Light will be on after using this.

## Change Graphics

This allows you to change the Graphics used by the Game engine. There are three settings: Internal, User Graphics and Precompiled "LTG" file sets. The default setting is internal, also if there are any problems with external graphics the game will switch back to internal.

You can make your own graphics and then select user graphics to see them. For more information about the User Graphics please visit the LaserTank website.

If there are any Laser Tank Graphics files ( LTG) the window will list them by name. You can then select any of the sets to see what they look like. You can download LTG files from the LaserTank website. Please put them in the directory with all the other Laser Tank files.

The LaserTank Web site can be found at:

<http://www.jccontrols.net/laser>

### Print Gameboard

You can print the Game Board.

The print is 4" x 4" (102mm x 102mm) the level name and number are printed above the gameboard and the Moves and Shots are printed below. When you select this option you will be able to change printer and settings from the Print window.