



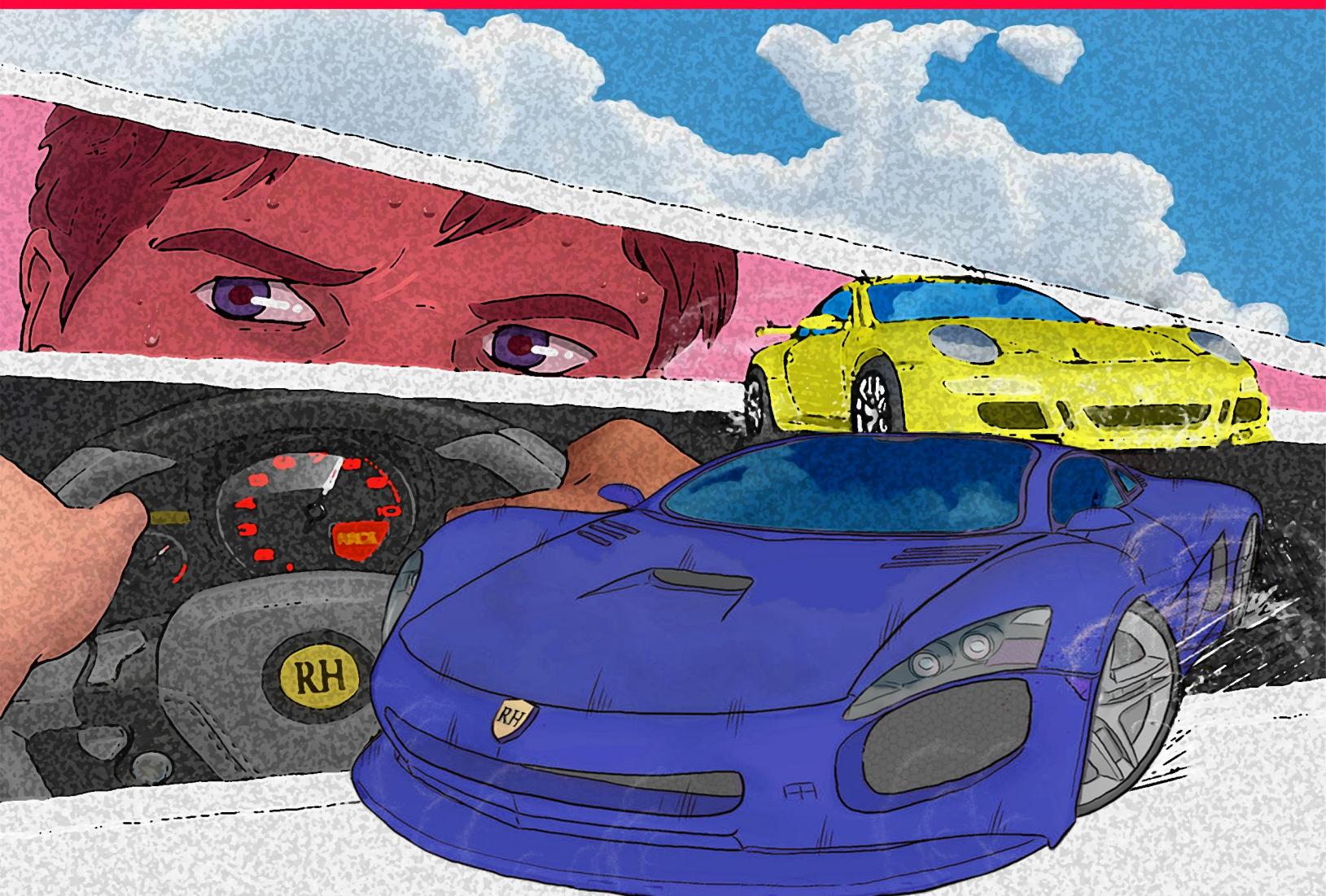
TEXAS INSTRUMENTS HOME COMPUTER

ROAD HUNTER

for DISK and CARTRIDGE VERSION

This game is designed to be used with the Texas Instruments TI-99/4A Home Computer only.

Open the Throttle all the way on your Custom Car! Pedal to the manual,
challenge world-class rival drivers to the finish line in a whirlwind road race full of action and excitement!

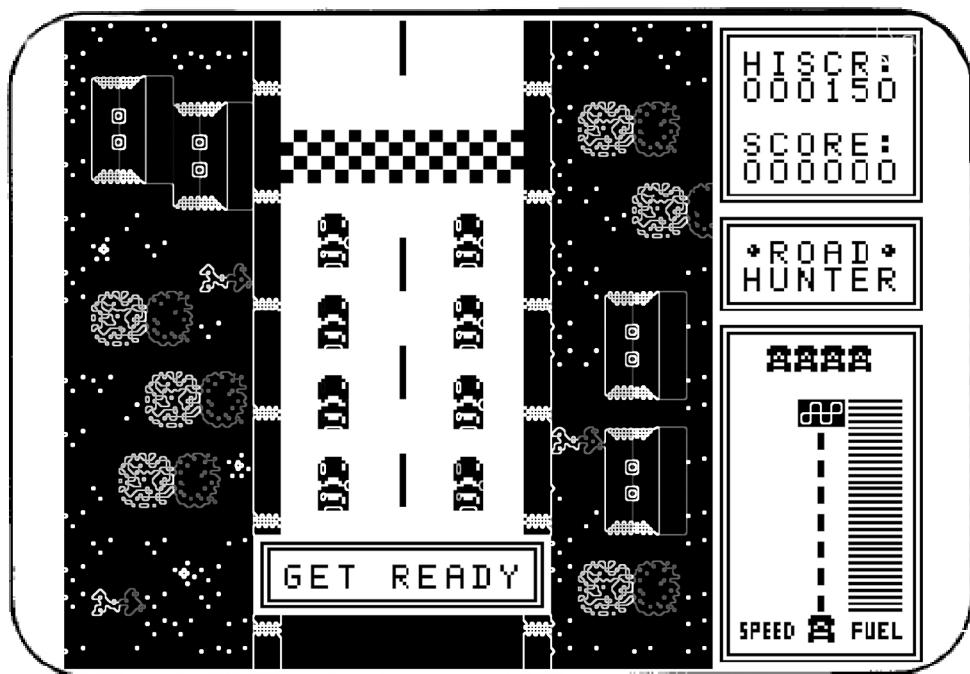


requirements:

- TI Extended Basic
- 32Kb Memory Expansion
- Floppy Disk Drive
- Wired Remote Controllers

TEXAS INSTRUMENTS
HOME COMPUTER

ROAD HUNTER



Open the Throttle all the way on your custom car! Pedal to the metal, challenge world-class rival drivers to the finish line in a whirlwind road race full of action and excitement!

This game is designed to be used with the Texas Instruments Home Computer.
It's programmed in assembler to expand the power, and capability of your Home Computer.

Programmed by: Rasmus Moustgaard

Book developed and

Written by: *TI-99 Italian User Club* (www.ti99iuc.it) and some 99'er enthusiasts from Atariage community (www.atariage.com)

Quick Reference Guide

Note that this Game is designed to be used only with the Texas Instruments TI-99/4A Home Computer. Important keystroke sequences are summarized here for your "quick reference".

Press	Action keyboard and Joystick
Up or "E" Key	Press this key or use the Joystick to ACCELERATE .
Down or "X" Key	Press this key or use the Joystick to BRAKING .
Right or "D" Key	Press this keys or use the Joystick to STEER RIGHT .
Left or "S" Key	Press this key or use the Joystick to STEER LEFT .
Fire Button or "Space Bar"	Press this key or use the Joystick button to Fire Gun .
"P" Key	Press this key during the game to PAUSE the action.



1. Introduction

Road Hunter is ready to roll! the most incredibly manic action you're never seen on the TI-99/4A. This game requires quick reflexes and talent to be able to complete the race.

GET READY!

- System Requirements:**
- Solid State Cartridge Module Extended Basic
 - 32K RAM - Memory Expansion (real or emulated)
 - Disk Drive - (real or emulated)

- Optional Equipment:**
- TI Wired Remote Controller or
compatible joystick

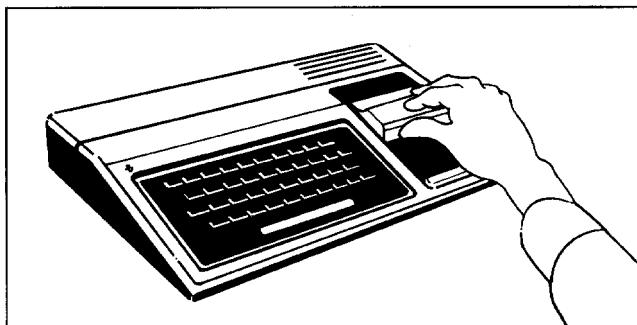
The game has been tested to work in Classic99 and MESS emulators, but will in most cases look better on real TI-99/4A hardware.

TEXAS INSTRUMENTS
HOME COMPUTER

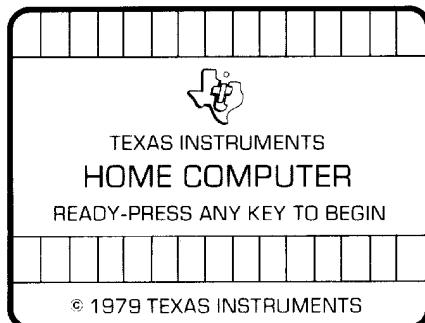
If you are using the Solid State Software™ Command Module

Be sure to have 32Kb Memory Expansion connected to your Home Computer.

Then insert the Command Module Solid State Cartridge™ **ROAD HUNTER**.



1. Turn the computer ON and wait for the master title screen to appear. Then slide the module into the slot on the console.



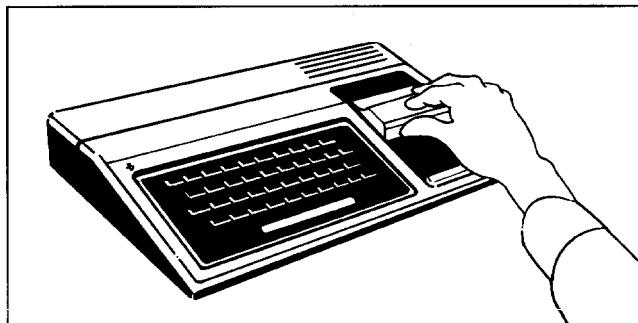
2. Press any key to make the master selection list appear. The title, **ROAD HUNTER**, will be shown on the list.
3. To select **ROAD HUNTER**, press the number key corresponding to the number shown next to **ROAD HUNTER**. To select TI BASIC, press the "1" key.

(*Note:* To remove the module, *first* return the computer to the master title screen by pressing SHIFT-Q. Turn off the computer then remove the module from the slot.)

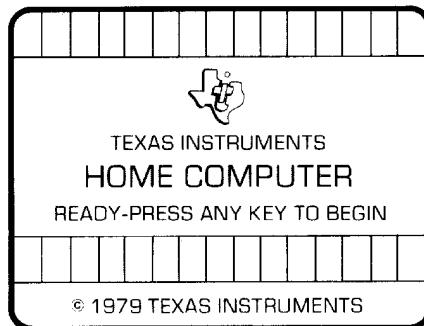


If you are using a Floppy Disk Drive

Be sure to have 32Kb Memory Expansion and Floppy Drive connected to your Home Computer. Then insert the Command Module Solid State Cartridgetm **TI Extended Basic**.



1. Turn the computer ON and wait for the master title screen to appear.



2. Press any key to make the master selection list appear. The title, *TI EXTENDED BASIC*, will be on the list.
3. Insert the **ROAD HUNTER** diskette into disk drive 1.
4. Select *TI EXTENDED BASIC*, pressing the corresponding number key (usually is number "2"). The game will start automatically.

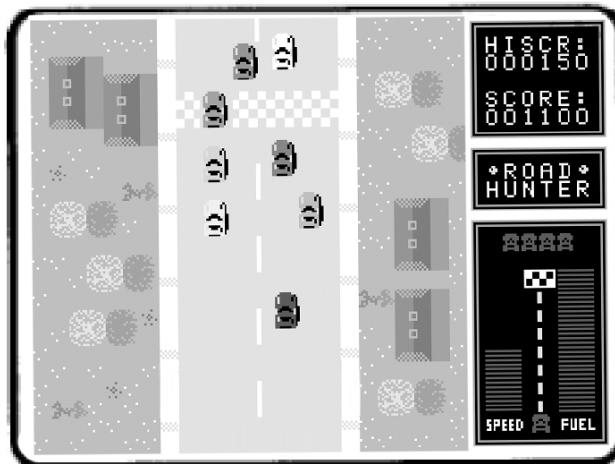
(*Note:* To remove the module, *first* return the computer to the master title screen by pressing SHIFT-Q. Turn off the computer then remove the module from the slot.)

TEXAS INSTRUMENTS HOME COMPUTER

GETTING STARTED

After title screen appears, press the "E" key to accelerate, the game will start in the same moment, or you can wait about 10 seconds and a race scene demonstration will be.

On the right side of the screen from the top is showed: the scores, the name of the game, the cars remaining, the fuel bar, the speed and the distance from the arrival.



Controlling Your Car

Keyboard:

Your car can be maneuvered in all directions using the arrow keys:

- Press the (E) key to Accelerate;
- Press the (X) key to Braking;
- Press the **← (S)** key to Steer Left;
- Press the **→ (D)** key to Steer Right;
- Press the **SPACE BAR** key to fire Gun.
- Press the **FCTN+ "0"** keys to QUIT the computer and return to the home screen.

Joystick:

If you are using the *Wired Remote Controllers*, move the lever **right** or **left** to maneuver the car, and move the lever **forward** (toward the FIRE button) or **backward** (away from the FIRE button) to accelerate or braking. Press **FIRE button** to Gun.

Stopping the Game

If at any time in the game you need to stop the action, press the "P" key (for pause) and hold it down momentarily. The game play stop and you must press the "P" key again to resume the game.



PLAYING THE GAME

Road Hunter is a racing game for the TI-99/4A home computer where you score points by bumping into other cars, knocking them off the road or even shooting them out of the way!

You'll need good driving skills and fast reflexes to avoid ending up on the side of the road yourself.

You'll also have to make sure that you don't run out of fuel, because if you do, it's game over! Fortunately for you, the car is equipped with an advanced system that allows you to refuel on the fly, by using fuel drums that others have dropped on the road.

Occasionally, guns may even turn up on the road, and these make it easy to clear a path ahead of you. Be aware, if you bump into other vehicles while carrying a gun, you'll probably lose it.

The game is not all about destruction; you should also attempt to finish the track to collect the bonus (depending on the amount of fuel you have left).

Watch out for that next track, it might be even harder than the last to complete.

Good Luck !

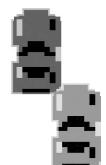
TIPS

- ° Hitting other cars from the side is the easiest way to push them off the road, but be careful if you're driving too near the road side, you could bounce off the other vehicle and crash.
- ° Avoid colliding into other cars from the rear since this might send your own car off the road.
- ° If you hit a car in the front end it will explode immediately.
- ° If you hit a car exactly in the rear center it will speed up to escape.
- ° Shoot if you can, but avoid shooting the fuel drums or you may run out of fuel.
- ° every 3000 points you will win an extra car !

- SCORE TABLE -

 pick up fuel: 25 pts

 pick up gun: 50 pts

 crash a car from front: 100 pts

 bump into other car: 10 pts

 shot hit: 75 pts

 other car crash: 100 pts



Technical Notes

- ° The game was written in TMS9900 assembly language, and was assembled/compiled using WinAsm99. Testing and debugging was primarily done using Classic99, but the game has also been tested in MESS 0.150 and on a real TI-99/4A.
- ° The game runs at 60 frames per second (FPS), or 50 FPS on EU consoles without the F18A. Timing is done by polling the VDP status register. Interrupts are disabled at all times. All 256 bytes of scratch pad memory are used, but a copy of the original content is saved and restored again before file operations.
- ° The maps were made in the Magellan map editor and exported using the "Assembler Character Transition Data" option. Because of the smooth scrolling, each unique pair of neighboring characters in the vertical direction uses up one of the 256 characters, and the characters beyond 192 are reserved for the left side panel. The game is running in the normal graphics mode so to avoid color spills, two characters next to each other must have compatible color sets.
- ° Each map consists of 24 24x24 screens. Each track consists of 104 screens in a fixed order specified using a list of screen memory addresses. The maps are 13.5 K each so they have to be loaded from disk for each level to fit into RAM.
- ° The map is not read in order to detect if a car hits the side of the road. For each track, only the starting position of the left side of the road and the (fixed) width of the road is used. For each screen, the direction of the road (left, straight, right) as one number. From this information the program can calculate the position of the road sides at any point.
- ° Reading from VDP is kept at a minimum. Except for file operations, only the VDP status register is read.

TEXAS INSTRUMENTS
HOME COMPUTER

- ° The first 8K of the VDP RAM is used for storing character definitions, in 4 character sets, each corresponding to a different scroll offset (0, 2, 4, 6 pixels). A routine scrolls the original patterns and uploads the data to VDP RAM once before each level. Scrolling is done simply by changing the address of the pattern table. After 4 times or 8 pixels it moves back to the first character set and switches to another name table scrolled one character or 8 pixels.
- ° There are two name tables in VDP RAM (one at >2000 and one at >2400). I alternate between them each time I have scrolled the screen 8 pixels. I show one table while updating the other. To even out the work between frames I update 1/4 or 1/2 of a table each frame, depending on whether the scroll speed is 2 or 4 pixels. Copying from CPU RAM to VDP RAM is done using a routine in scratch pad RAM that has 8 consecutive MOVB instructions in the loop body.
- ° There are also two sprite attribute tables that are alternated between. Each frame I switch to one of the tables while uploading data to the other from CPU RAM. The CPU RAM copy of the table is actually stored in scratch pad memory. The game uses a flicker (reducing) routine where I cycle the quarter of the table that gets the lowest sprite numbers, i.e. the quarter that is uploaded to the beginning of the VDP RAM table.
- ° Sound and music is played using my own sound list player. This is based on the format of standard sound lists but also supports loops and calls. Allowing the 'drums' to play continuously without being disrupted by the explosions required a little special coding. Keyboard and joystick are read directly using CRU. A single call to KSCAN would reduce the frame rate by a factor two because of the delay.

* During game development I have continuously kept an eye on the number of CPU cycles used by the main loop using the debugger in Classic99. I find this essential if you want to make a fast moving game on the TI. It's easier to fix any speed issues immediately, rather than later when the code has become more entangled.



In Case of Difficulty

If the module activities or the game loaded from Diskette do not appear to be operating properly return to the master title screen by pressing **SHIFT Q** or Turn off your computer and after a few seconds Turn it on again).

In case you using the Module Cartridge, withdraw the module, align it with the module opening, and reinsert it carefully. Then press any key to make the master selection list appear. Repeat the selection process. (*Note:* In some instances, it may be necessary to turn the computer off, wait several seconds, and then turn it on again.)

If the module is accidentally removed from the slot while the module contents are being used, the computer may behave erratically. To restore the computer to normal operation, turn the computer console off, wait a few seconds, reinsert the module, and turn it on again.

**TEXAS INSTRUMENTS
HOME COMPUTER**

Important Notice of Disclaimer Regarding the Programs

The following should be read and understood *before* purchasing and/or using the software module.

Rasmus Moustgaard does not warrant that the Programs will be free from error or will meet the specific requirements of the consumer. The consumer assumes complete responsibility for any decision made or actions taken based on information obtained using the Programs. Any statements made concerning the utility of the Programs are not to be construed as expressed or implied warranties.

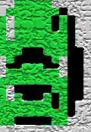
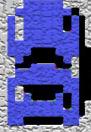
RASMUS MOUSTGAARD MAKES NO WARRANTY, EITHER EXPRESSED OR IMPLIED, INCLUDING BUT NOT LIMITED TO ANY IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, REGARDING THE PROGRAMS AND MAKES ALL PROGRAMS AVAILABLE SOLELY ON AN "AS IS" BASIS.

*** The source code and the compiled game is provided free of charge to the TI-99/4A community.

The source code and/or the compiled game must not under any circumstances be sold without the express permission of the author.

ROAD HUNTER

by Rasmus Moustgaard



GET READY

Open the Throttle all the way on your Custom Car!

Pedal to the manual, challenge world-class rival drivers to the finish line in a whirlwind road race full of action and excitement!



Texas Instruments
INCORPORATED