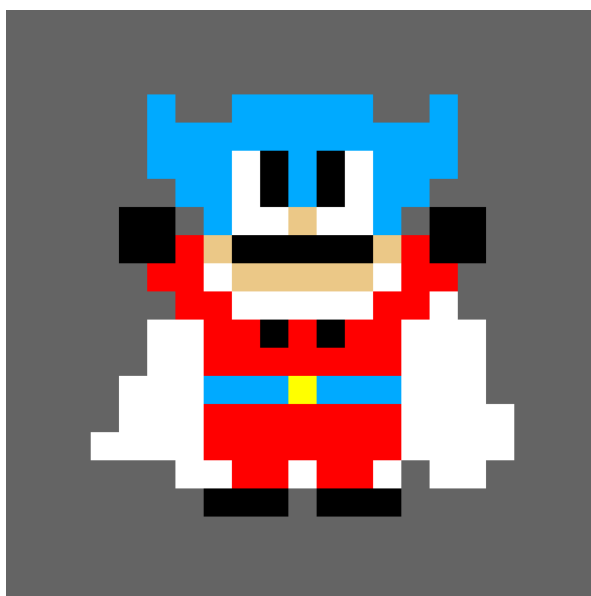




EXTRA SUGAR EDITION



A new enhanced version of the classic arcade game
for the Amstrad CPC series of 8 bit home computers



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Installing and Running

Bomb Jack Extra Sugar should work on any model of CPC or Plus providing it has at least 128kb of RAM and a disk drive or mass storage device.

If using with a software emulator, a real CPC with USB drive emulator, or for copying onto an actual physical disk (respect), all you need is the disk image file from this package:

Bomb Jack Extra Sugar.dsk

Drag this file over to your emulator or file system of choice (or work whatever voodoo you need to get it onto that floppy), then type RUN"BJES to start.

Note that the game saves a file called HISCORES.DAT to disk. Therefore to ensure proper function, writing to disk must be enabled. For more about HISCORES.DAT, see the section **File Manager**.

IMPORTANT: If running from a mass storage device like the M4, please copy the folder BJES and its contents to your device and then RUN"BJES from there. It is not recommended to use the .DSK image on the M4 as the current software revision does not support saving to .DSK image.

Controls

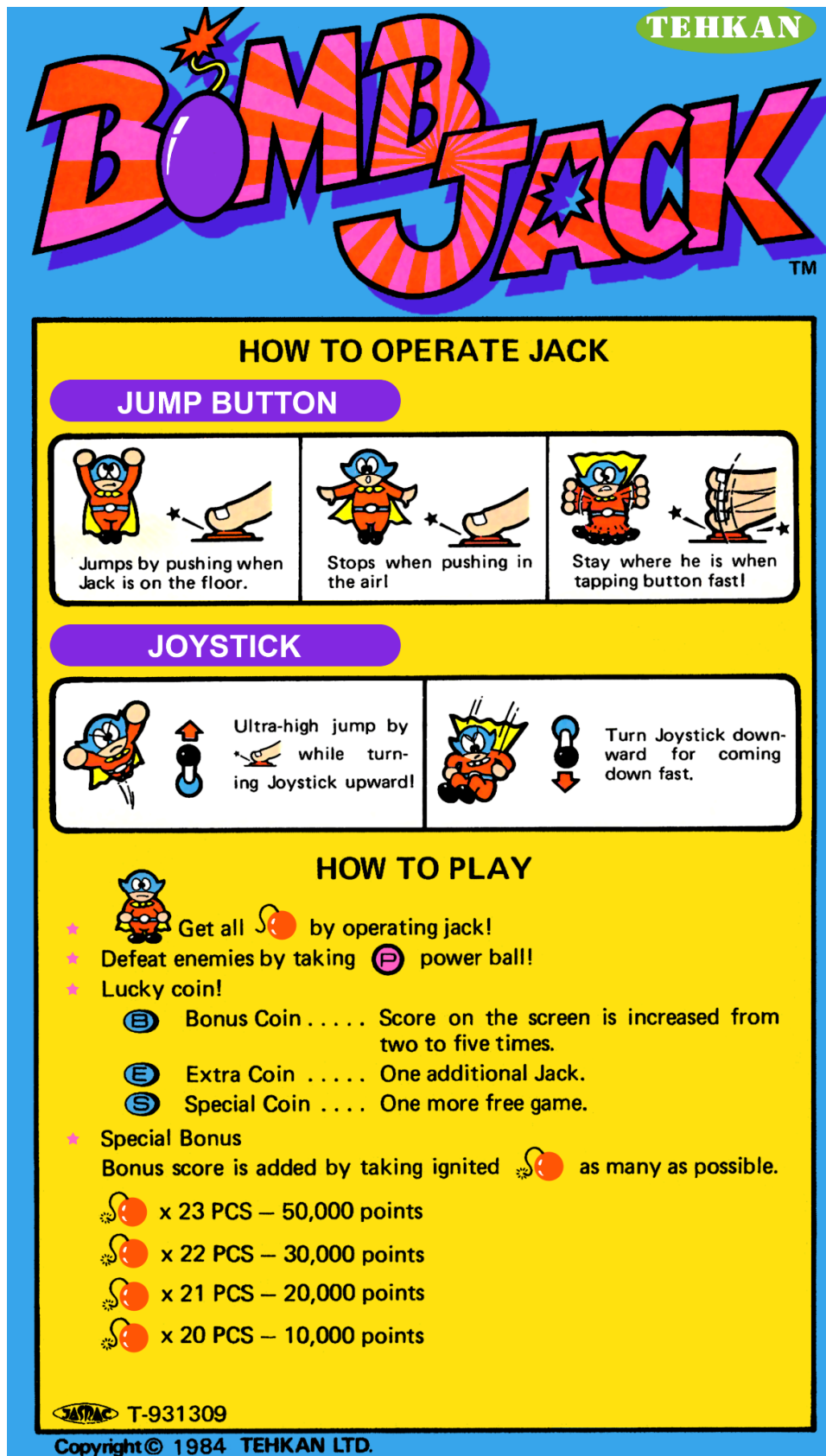
The entire game can be controlled with either a joystick or your choice of keys.

The default keys on first load are defined as Q,A,O,P, SPACE, and ESC to pause. These keys can be redefined by pressing ESC on the title screen.

The ESC key and joystick button 2 will always open the pause menu in-game, alongside whatever other key you define as pause. From the pause menu you have the option to resume your game, restart, or quit to the title screen. If you have cheats enabled, you can also skip rounds from here.

NOTE: If you want to make your key changes permanent, go to the OPTIONS menu after defining your keys and select SAVE AS DEFAULT.

How To Play



Original arcade game instruction card

Tips For High Scoring

The following contains deeper strategies to help improve your score, or perhaps make you play worse in an attempt to improve your score. Read on at your peril...

In general, try to work fast. Everything becomes more dangerous the longer you spend in a round. Especially at the highest difficulty you can't afford to let the monsters overwhelm you. Learn when to play for maximum points and when to focus on clearing the board.

Bomb Sequence and the Power Bar

You should aim to collect all the bombs in the sequence indicated by the ignited bomb. There is a 50,000 bonus for collecting the full sequence of 23 ignited bombs in a round. The sequence follows a predetermined pattern, however the first bomb is always a free choice, and whichever bomb you take first determines how the sequence will proceed, so you should experiment to find the best starting point. Choosing the right place to begin the chain could make all the difference. It's generally a good idea to try to clear out the bombs around the bottom of the screen early if you can.

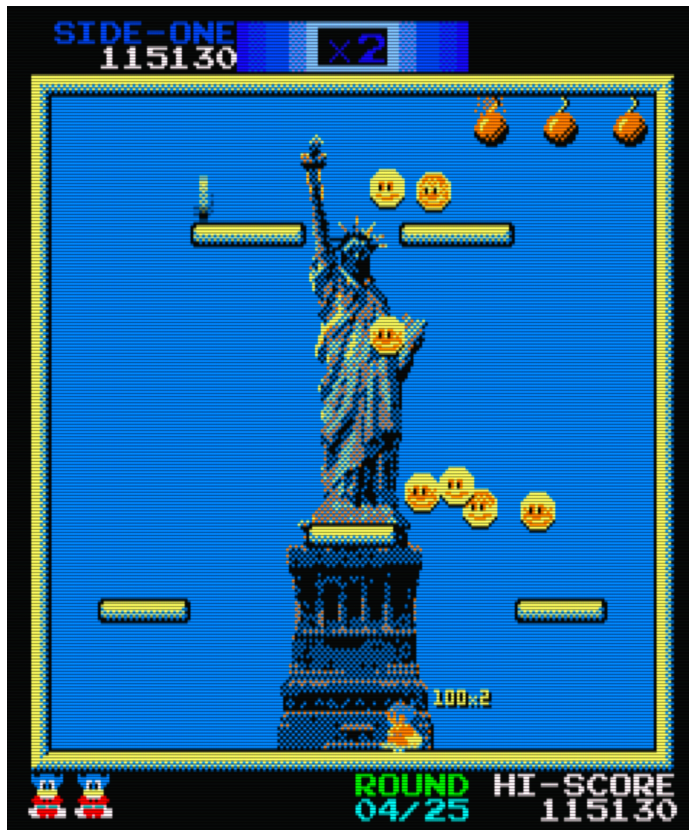
But remember, if things get too hectic, it is sometimes better to take bombs out of sequence. Don't waste your life trying to preserve your perfect bomb chain! Losing a life breaks the chain anyway.



Your Power Meter fills up with every bomb you collect. Once you have collected 20 bombs, the Power Ball is released.

As well as being worth twice as much, ignited bombs also fill your Power Meter twice as quickly as unlit bombs. If you collect all the bombs in the correct sequence, and avoid

collecting any more bombs while your Power Meter is full (as tempting as this might be), then there are enough bombs to release the Power Ball at least twice in each round. If you can get your multiplier to x5 before it releases for the second time, you can score a lot of points here.



Coin Smashing

When collected, the Power Ball briefly turns all enemies into coins which can be destroyed for points. Each coin smashed is worth more than the one before, according to the following sequence:

100, 200, 300, 500, 800,
1200, 2000, 2000, 2000

So you have the potential to earn a lot more points when there are more coins on screen. If that knowledge tempts you to deliberately wait for more enemies to spawn before collecting the Power Ball, don't blame me if it all goes wrong.

Smashing enemy coins will also earn you an Extra Life coin, in place of the normal bonus coin. The number required varies depending on difficulty setting and other factors.

Score Multiplier And The Bonus Coin

The bonus coin appears every 5000 points, and when collected, raises your multiplier from x1 at the beginning of the round to a maximum of x5. The multiplier affects all the points you earn during the round, so each coin becomes easier to reach than the one before. This is helped by the coin itself being worth 1000 points times the multiplier.

The key to high scoring is to get your multiplier up to x5 as early as possible in each round. This means grabbing the coins before the bombs wherever possible. Expert players will use the "bump" method to end each round with their score just below a multiple of 5000, so that the first coin appears as soon as possible in the next round.

Bumping

Any time you touch and then separate from a wall, floor or ceiling counts as a “bump”. You earn between ten and fifty points for each bump (depending on your multiplier).

If the Power Ball has been released, its colour also changes every time you bump a platform.

The colour of the Power Ball when you collect it affects its value. The Power Ball cycles through the following colours (or as close as I could get, given the limitations of the four colour screen mode):



Red = 100, Blue = 200, Purple=300, Green = 500, Aqua = 800, Gold = 1200, Silver = 2000

If that is not clear enough, your Power Meter at the top of the screen changes colour along with it.

Time your bumps in order to collect the Power Ball when it is at its maximum value. 2000 points with a x5 multiplier is 10,000 points so it's well worth the effort. However, one bump too many will send it back to the lowest value.

With a maximum points strategy you can earn well over 100,000 points in each round, but chasing bigger scores can also make you fail harder. Again, don't blame me if you mess up your game by being too greedy. You have been warned.

Remember points won't replace lost lives... only smashing coins will.

If that sounds like a lot of complicated scoring rules to take in, I'm sorry. It's all optional though, and not necessarily the recommended strategy when you're starting out anyway. But check out some of the arcade world record scores on Youtube if you want to be thoroughly impressed.

I'll leave you with a couple of small tips to consider if a situation ever seems impossible:

1. You can fly between two bombs without collecting either one, if you are careful.
2. The enemy behaviour is not random. If you always do the same thing, so will they. Even the side of the screen they appear on is always opposite to you (ah, there's a third tip).

Extra Features

Bomb Jack Extra Sugar has several additional features accessible by selecting OPTIONS or EXTRAS from the main menu.

OPTIONS Menu

Game Mode

ARCADE - a more-or-less faithful recreation of the arcade game. Round sequence is based on the revision 1 arcade board (yes there are differences).

REMIX - Twenty new stages with all-new background art. Unlike arcade mode, this mode does not loop around and has an actual ending, if you can get that far.

SCRAMBLE - layouts and backgrounds are all scrambled up. Different every time!

Separate high score tables are kept for each game mode.



Difficulty

Four settings from Easy to Ultra-hard. Changes the speed and number of enemies, and also their sequence. The sequences are again based on the Revision 1 arcade board.

Separate high score tables are kept for each difficulty setting. Trophies are also awarded according to difficulty setting. To get even a single Ultra Hard trophy is an achievement in itself.

Bomb Order

NORMAL - the same sequence as the arcade game.

REVERSE - the normal bomb sequence is reversed.

RANDOM - the bomb sequence is randomised, and will be different each time.

Getting 23 fire bombs in Random mode is a real test of skill even on Easy difficulty, and will earn you a trophy if you can manage it. Points have been increased accordingly.

Sound

MUSIC + SFX - Music plays through the left, right and centre channels. Sound effects play through the centre channel.

MUSIC ONLY - music plays on all channels with no sound effects.

SFX ONLY - sound effects are distributed among all three channels.

OFF - if you want silence but the volume control is just too far away.

Monitor

COLOUR - uses normal mix of palettes.

GREEN - brighter palette that might help make the bombs more visible on a green screen. In theory, anyway. I'm not sure, I don't currently have one to test it with.

PLAIN BG

If the pictures are too distracting and you just want the pure gameplay experience, turn this on and revel in the crisp austerity of a perfectly blank background. It will also save you a little bit of loading time.



Cheats

There's no shame in cheating. But we will disable the high scores and trophies if you have cheats enabled.

Choose between infinite lives or invulnerability. Infinite lives provide the thrill of failure without the disappointment of losing. When invulnerable, the screen border will flash red whenever you collide with an enemy, but apart from that you won't feel a thing.

When cheats are turned on, you can also skip up to nine levels at a time by selecting the SKIP option from the pause menu.

Sound Test

Play any tune from the arcade game in a little jukebox player. Left and right to select track then press jump to play.

Save As Default

The current game settings will be saved to disk and will be the new default settings whenever the game starts up. Key bindings are also saved, so if you want to change the default keys, redefine them in the main menu and then select this option, and your new keys will become the default.

EXTRAS Menu

Highscores

Browse all the high score tables, for all modes and difficulty settings.

Trophies

Lets you view all the trophies you have earned so far. Trophies are earned for certain achievements in-game. A separate trophy is awarded at each difficulty setting.

10k P-BALL - collect a Power Ball worth the maximum points value (2000x5)

WORLD TOUR - complete the first five rounds in ARCADE mode

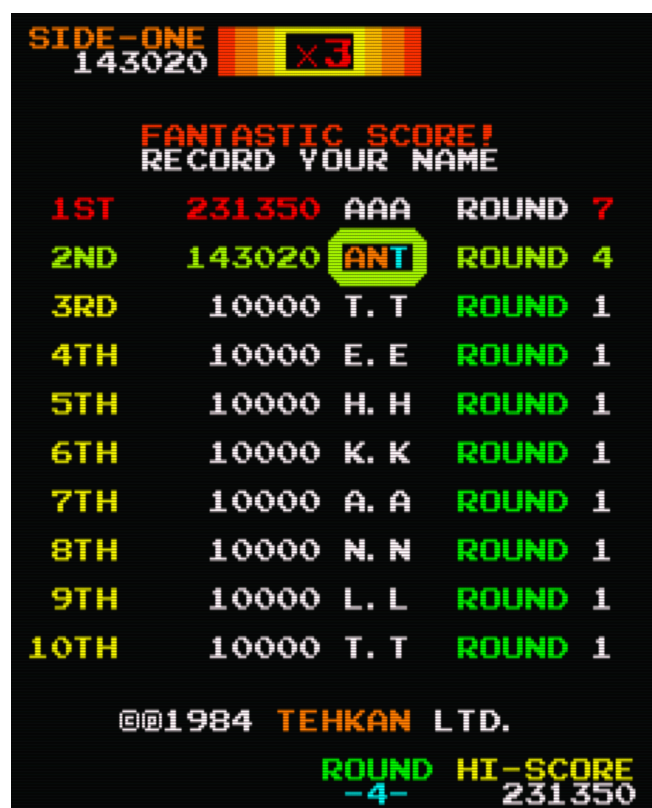
MOON LANDING - complete the first ten rounds in REMIX mode

FAULTLESS X5 - get 23 fire bombs for five rounds in a row

REVERSE X5 - get 23 fire bombs for five rounds in a row with bombs in reverse order

ALL RANDOMS - get 23 fire bombs with bombs in random order

SMASH 50 - smash 50 enemy coins in any mode



MILLIONAIRE - score 1,000,000 points in any mode

WIN REMIX - complete all 20 stages of REMIX mode

Credits

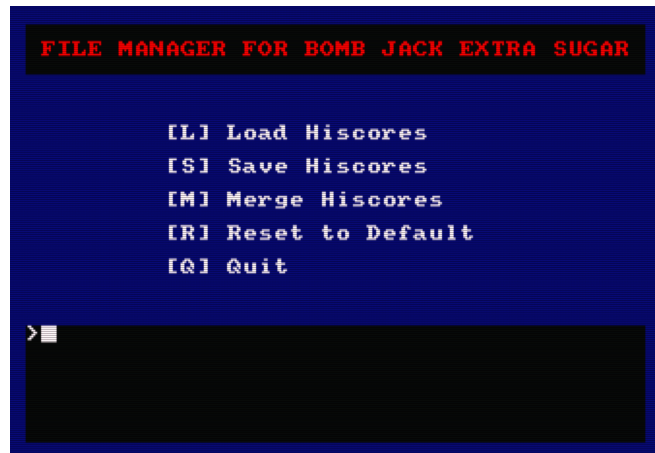
Displays the game's credits from the title sequence for as long as you care to look at them.



File Manager

The file manager lets you create backups of your save file, reset your high scores and/or trophies, and merge two or more save files together. This last feature is great if you have a friend you want to share your high scores with. Or if you don't have a friend, to synchronise your high scores between multiple computers.

Maybe people could even share their high scores online? It's there if you want to.



To start the file manager, type RUN"MANAGER from the game's disk or directory, and follow the on-screen instructions.

The file manager is written in BASIC so merging is a little slow. Yes, I could have written a faster one in ASM but I felt like doing something in BASIC. Hey, it's not so bad.

NOTE: If your save file ever becomes corrupted, (possibly because the game was shut down midway though saving?) you can restore your previous save file by loading HISCORES.BAK in the file manager, and then re-saving it as the default (HISCORES.DAT).

Or you could just rename the file directly by typing:

```
|REN,"HISCORES.DAT","HISCORES.BAK
```

from the BASIC prompt, but this way saves you from wondering where the | key is.

Of course, if you had used File Manager to make a backup, you wouldn't be worried anyway.

DISCLAIMER: I have made no attempt to error-check or protect any of the data in the save file. If you want to hack the data, you surely can. If you want to load something that's not a valid data file and see if it breaks the game, it probably will. I don't recommend doing that.

However, if you delete the save file entirely, the game will make a new one for you. You can also make a fresh one with the File Manager if you mess it up somehow.

Developer Notes

This project began with me writing some simple sprite routines as a speed test, and quickly got out of hand from there.

The Amstrad CPC was my childhood computer, but my attempts at mastering it at the time were frustrated by the lack of access to proper tools and knowledge; hard to come by in those pre-internet times. Now that these things are freely available online thanks to the efforts of the retro community, I was looking for a project to teach myself Z80 assembly language and finally see what this old computer can do.

Bomb Jack was one of my favourite arcade games in the 1980s and still a game I enjoy today. The original CPC version by Elite was well-received and is fondly remembered. I owned a copy myself and enjoyed it, but as a bigger fan of the arcade original I could also see its shortcomings. I thought it would be a good challenge to try to create a more faithful version for the 128k CPC. And to use the disk drive to save your high scores too, because it's a score-oriented game.

Looking at my CPC sprite routine's performance, I estimated (optimistically) it would be just fast enough to run the game at 50hz. The CPC in its lifetime had to suffer many games with poor framerates and I wanted my game to run at the fastest possible speed.

One advantage the CPC does have is its programmable video controller chip which can output the arcade game's exact resolution of 224x256, albeit only in four colours. (Other 8 bit computers like the C64 and Spectrum can't output 256 lines vertically, no matter what). Experiments with the lower-resolution 16 colour screen mode convinced me that higher detail was preferable to more colour in this instance. The original sprites are only 16x16 and I wanted to preserve their detail as much as possible.

Besides, I had always liked the CPC's 4 colour mode and felt like it had too-often been maligned as the domain of lazy Spectrum ports. Some of my earliest artistic inspiration had been the beautiful 4 colour art of Jill Lawson, as featured in ACU magazine. Her clever use of dithering to extend the colour palette seemed like magic to me at the time. The new background images in this game are my small tribute to her work.

Working in the higher resolution screen mode also created a whole new set of interesting programming challenges, as I tried to see how far I could push the four colour screen mode to display more than four colours. The top and bottom part of the display employ both horizontal and vertical colour splits, and what a nuisance it is that the game displays these ALL the time, on every single screen. But that's how the arcade game is, so here they are.

Other parts of the game get creative with the video chip in various ways, and my apologies if this causes any issues with somebody's LCD screen or upscaler. I'm not very good at this sort of thing, which is really better left to the experienced democoders. All I can say is that it works on original hardware, as well as on all the emulators I checked, so I hope it works for you, too.

All of the gameplay of the arcade game was recreated by observation... although the original game code is also written in Z80 ASM, I didn't try to decompile it to figure out the exact routines. Small differences in gameplay can be observed. The game also updates at 50hz compared to the arcade original's 60hz, but I have taken that into account so that the apparent speed to the player is hopefully the same.

Arcade mode follows the general sequence of the revision 1 arcade board, which I discovered is slightly different to later revisions. Note that the sequence of enemies also changes depending on difficulty setting. This behaviour is also taken directly from the arcade game, where the enemy sequence changes depending on the DIP switch settings. You learn these things when you try to figure out what to set them to.

And of course, once I had the basic game engine in place, I couldn't help but add some modifications of my own. Messing with the bomb order created a whole new set of challenges. Then at some point, I hit upon the idea of separating the bomb data from the platform data and letting them be recombined in different ways, as well as flipping them upside-down, and suddenly there were a whole lot of new layouts to play with.

As a first Z80 project and my first contribution to the retro scene, I am generally pleased with how it has turned out, and I hope that you enjoy it too.

Anthony Flack
Napier, New Zealand
February 2025



Credits and Acknowledgements

Written, compiled and tested using the WinApe emulator by **Richard Wilson**.

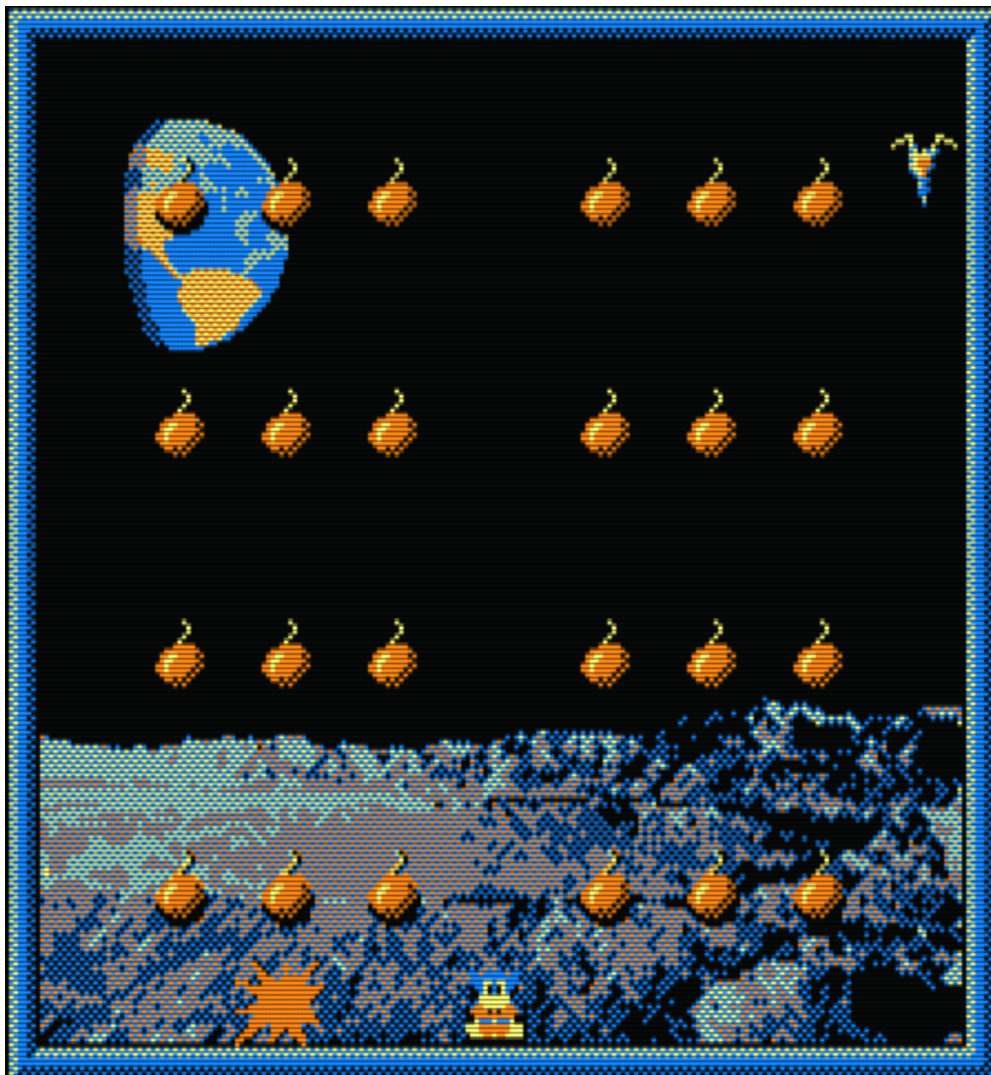
Sound and music created with Arkos Tracker 2. Arkos Tracker and the Z80 players are coded and designed by **Julien Névo** a.k.a **Targhan/Arkos**.

Files compressed with ZX0 by **Einar Saukas**.

Reference and technical assistance provided by Chibiakumas.com, Z80-heaven.com and CPCwiki.co.eu.

Other tools written by me.

Big thanks to everyone who contributes to the retro scene; your work is inspiring. And to everybody who is still using a real CPC in 2025 and beyond, this game is for you.



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