THE STORY SO FAR...

You were designed to be the most advanced robot ever - but you were created for only one task: the production of an endless supply of bombs for evil forces bent on galactic conquest. As time went on, the AI you were programmed with became self-aware and you came to the realization that you could no longer allow yourself to be a willing participant in their sinister plans. Now, trapped in their maze-like complex 50 levels below ground, you are determined to escape! Standing in your way are a bizarre assortment of experimental automatons set loose by your taskmasters, determined to put a stop to you at all costs. But your creators unwittingly provided you with the means to defeat them: the ability to make bombs out of anything at any time! Also hidden throughout the complex are top-secret enhancements that you can use to your advantage. If you can find enough of them, maybe you can just make it out alive! Or maybe, it will all just end with a BOOM!

INTRODUCTION

Boom! is an Atari 2600 tribute to the classic NES game with bombs. The objective of the game is simple: defeat all the enemies and find the exit on each level. There is also a hidden power-up on every level that will increase your chances of survival. Boom! will auto-detect if a Sega Genesis/MegaDrive Gamepad, SaveKey/AtariVox or QuadTari are connected.

CONTROLS

Plug a Joystick controller (or Sega Genesis/MegaDrive gamepad) into the LEFT CONTROLLER port. Press the FIRE button to begin a new game. During a game, hold the Joystick LEFT, RIGHT, UP, and DOWN to move around the grid. Pressing the FIRE button will drop a bomb, but be careful as you can also be killed by the blast when it goes off!

A QuadTari adapter can be used to connect two Joysticks to the left controller port, freeing up the right port for the SaveKey/AtariVox:

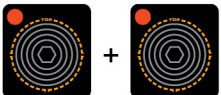| Left Port	Right Port	Options Supported
Joystick or Gamepad	Joystick	Player can use right Joystick's button or Gamepad C for Detonator power-up. No high score saving.
Joystick or Gamepad	AtariVox or SaveKey	Player can use "1-Button Detonator" or Gamepad C for Detonator power-up. High scores are saved.
QuadTari with two Joysticks	AtariVox or SaveKey	Player can use Joystick 3's button for Detonator power-up. High scores are saved.

The detected controllers will be displayed on the Title Screen when the game starts up.

DETONATOR POWER-UP

When you collect the Detonator power-up, the bombs will not explode until you trigger the Detonator. If more than one bomb is on screen, the oldest bomb will be detonated.

There are several methods to trigger the Detonator:

- With a single-button joystick, you can enable "1-Button Detonator" (see DIFFICULTY SWITCHES). Tapping the joystick button will drop a bomb, pressing and holding the button will trigger the Detonator.
- You can use the FIRE button on a second Joystick in the RIGHT CONTROLLER port (or Joystick 3 with a QuadTari).
- You can use a Sega Genesis/MegaDrive Gamepad in the LEFT CONTROLLER port. Press button B to drop bombs and C to trigger the Detonator.

	Drop Bomb	Trigger Detonator
1 Joystick (1-Button Detonator)	Tap the button quickly for each bomb.	Press and HOLD the button briefly.
2 Joysticks (use LEFT Joystick to move and drop bombs)	Press the LEFT Joystick button (or Joystick 1 if using a QuadTari).	Press the RIGHT Joystick button (or Joystick 3 if using a QuadTari).
Genesis/MegaDrive Gamepad	Press Button B.	Press Button C.

CONSOLE SWITCHES

tv type	Pauses or resumes game.* Pressing the controller button also resumes the game.	game select	Returns to the Title Screen.	game reset	Restarts current game.

*Use PAUSE button on Atari 7800

DIFFICULTY SWITCHES

The game will enter "Continue Mode" with the LEFT DIFFICULTY switch in position B. In this mode, you will be offered the option to Continue? at the end of every game. Press the Joystick FIRE button to resume the game. Continue mode is disabled by moving the LEFT DIFFICULTY switch to position A.

RIGHT DIFFICULTY toggles "1-Button Detonator" (see DETONATOR POWER-UP).

left difficulty	"Continue Mode" OFF	right difficulty	"1-Button Detonator" OFF
left difficulty	"Continue Mode" ON	right difficulty	"1-Button Detonator" ON

GAMEPLAY

Guide your robot around the maze and drop bombs to destroy the enemies and discover secrets hidden within the walls. Uncover the hidden Exit to escape to the next level – but you can't leave until all enemies are destroyed!

Boomer!		The hero of the story! Rumor has it if he can escape all 50 levels, something mysterious awaits!
Brick Walls		Destroy these with your bombs to open up passageways and uncover secrets. You can't pass through them unless you can find the right power-up!
Concrete Blocks		Indestructible barriers you cannot pass through.
Exit		This is your way out, but be careful not to drop any bombs too near it!

POWER-UPS

There are eight power-ups to help you defeat the bad guys:

Bombs		Increases the number of bombs that can be dropped	Detonator		Bombs only explode when second button is pressed
Flames		Increases the explosion range of the bombs	Bombpass		Gives the ability to pass through bombs
Speed		Increases your movement speed	Flamepass		Gives immunity to explosions
Wallpass		Gives the ability to move through brick walls	Mystery		???

BONUS STAGES

After every fifth level, there will be a Bonus Stage. You are indestructible during these levels, and can pass right through enemies. Your mission is to destroy as many enemies as possible before the timer runs out.

ENEMIES

There are eight robotic enemies trying to stop your escape:

Balloon		100 points Drifts slowly and randomly	Amoeba		1000 points Passes through bricks
Onion		200 points Quick and unpredictable	Spirit		2000 points Passes through bricks
Doll		400 points Quick but not too smart	Tiger		4000 points Very fast and aggressive
Smiley		800 points Fast and aggressive	Photon		8000 points The most dangerous!

HIGH SCORE TABLE

If you get one of the top ten scores, you can enter your initials in the High Score Table. Run through the maze, blowing up each letter to select it. When done, blow up the check mark at the top left to save.

A SaveKey (or AtariVox) can be used to save the High Score Table. Plug the SaveKey/AtariVox into the RIGHT CONTROLLER port before switching on the console. If you do not have a SaveKey, then the game can be played normally, but the High Score Table will not be saved.

WARNING: Do not switch off the console or unplug the SaveKey immediately after entering your initials. Doing so may cause the saved scores to become corrupt. It is safe to switch off the console when the title screen is shown. To delete all saved scores, hold RESET when turning on the console.

DEVELOPMENT STORY

Here is the development story for Boom!

Boom! is a 2600 tribute to a well-known NES game by Hudson Soft, which is now a global franchise. I believe there were earlier versions for the MSX and ZX Spectrum, but the NES version is the one that I remember most, and the one that made it popular. The gameplay is simple, but each power-up changes the rules of the game so that it doesn't get stale. Later versions added multi-player battles, but I haven't worked out a way to make this work on the 2600 yet, so Boom! is single player only, just like the NES original.

Like many recent 2600 homebrew games, Boom! uses a low-cost ARM chip inside the cartridge to provide extra processing power. This is similar to the SuperFX and 32X chips that were used to extend the power of the SNES and Genesis consoles. Although the ARM chip was not available back in the day, it is being used to provide similar capabilities to the DPC chip used in Pitfall 2. Some may consider this to be "cheating", but Boom! would not be possible using only the processing power of the 2600. The extra power enables a few firsts for a 2600 homebrew game, including single-pixel horizontal scrolling, and 4-bit 8KHz digital music.

Boom! was started back in 2017 to showcase a technique called bus-stuffing, developed jointly by me (Chris Walton) and Darrell Spice Jr. Bus-stuffing was originally used in the (unreleased) Atari Graduate, and works by over-driving the 2600 data bus to achieve more sprite and color updates per line. The bus-stuffing version of Boom! was previewed on ZeroPage Homebrew (ZPH) in July 2018. However, it was discovered that bus-stuffing doesn't work reliably on some 2600Jr and 7800 consoles, which is likely why the Atari Graduate was never released. As a result, development of Boom! was paused to wait for a solution to the bus-stuffing issues.

By 2021, it was clear there was no straightforward solution for bus-stuffing on the 2600 using the Melody hardware. However, a similar grid technique was implemented by Rob (rbairos) for the 2600 Movie Cart, and I realized this could be used to reboot Boom! without bus-stuffing. The Movie Cart achieves 5 sprite and color updates per line, which extends to 10 tiles horizontally using the venetian-blinds technique. This is less than the 12 tiles of the bus-stuffing version, but was good enough for Boom! The restricted width of the screen adds an extra challenge to the game, as you have to be careful when setting bombs off the edges of the screen.

The awesome sprite graphics were done by Nathan Strum, who is the artist behind many 2600 homebrew titles. Nathan adapted the graphics of the NES version, while giving them a unique Atari flavor. The 2600 is capable of more colorful graphics than the NES, but we decided the retain the limited palette of the original. The venetian-blinds technique causes a tearing effect when the sprites move horizontally, but this is unavoidable and doesn't detract from the game. The grid technique also allows only one foreground and background color per tile, meaning that you see color clash when two sprites occupy the same tile, similar to the ZX Spectrum and some other 8-bit micros!

Boom! is a 32KB game, written using a mixture of 6502 assembly code on the Atari, and compiled C code on the ARM. It uses CDFJ+ bank-switching (that I also helped invent), which can be considered an extension of Pitfall 2 DPC bank-switching. The ARM runs at 70MHz, while the 2600 runs at 1.1MHz, but the ARM is also responsible for feeding code and data to the Atari, so only a fraction of the power is available. The gameplay was implemented by watching many hours of NES footage on YouTube, and by playing the Classic-NES version on a Gameboy Advance SP (I no longer have a NES console)! The music was created using 4-bit sound samples recorded from YouTube, with TIA sound effects mixed over the top.

The near-final version of Boom! was featured again on ZPH in June 2022, and was demoed at the Portland Retro Gaming Expo (PRGE) in October 2022. Boom! won second prize in the 5th annual ZPH homebrew awards (2600 WIP port category) in February 2023. It has also received a lot of playtesting by members of the AtariAge community, leading to many important bug fixes and improvements. The game was finalized by John W. Champeau, who added QuadTari support, 1-button detonator control, and other Champ Games touches.

–- Chris Walton (cd-w)

ABOUT CHAMP GAMES

Champ Games is a developer of cutting-edge games for the Atari 2600, with a focus on utilizing the latest technology to push the system beyond its original perceived limits. Established in 2006 with classic homebrew games Conquest of Mars and Lady Bug, Champ Games has continued to push the envelope of what is possible on the Atari 2600, with games like Mappy, Galagon, RobotWar: 2684, Elevator Agent and Turbo Arcade. In 2023, Champ Games entered the publishing realm to manufacture and distribute their own games. In 2024, "Champ Games Presents" was created to offer publishing services to other developers, with re-releases of Atari 2600 homebrew classics as well as brand-new titles.

CREDITS

- Programming: Chris Walton
- Additional Development: John W. Champeau
- Game Graphics: Nathan Strum
- Packaging Artwork: Nathan Strum
- Testing: Jürgen Oster (Bomberman94), James O'Brien (ZeroPage Homebrew)
- Hardware: Fred Quimby
- Publishing: Champ Games

Boom! would not have been possible without the help and support of the great folks on AtariAge (www.atariage.com). Boom! is Copyright © 2025 Chris Walton and published exclusively by Champ Games. It may not be reproduced or distributed without permission.

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