

Embedded Systems Project

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February 2023

1 What we want to build

We want to implement some functionality of the 1977 Atari 2600 game called Combat. We will display the game via a VGA cable. The goal is to make it a two-player game with the following aspects from the original:

1. Same movement as Combat Tanks
 - Rotate in place
 - Move forward (Not backward!)
 - Turn while moving
 - Fire bullet that disappears after traveling a set distance
 - Knockback when hit
 - Clipping behavior when knockbacked close to walls
2. Game Control:
 - Level select (probably around 2-3) with differently placed static obstacles (button)
 - Add invisible tanks setting
 - Possibly planes
 - Game reset (button)
 - Graphics select (switch)
 - Level is timed (would rather do first to ten, deuces??)
3. Scorekeeping when hit
4. Graphics: First we will get the original graphics working and if we can get that complete, we will add a toggle that can switch between prettier graphics vs. the original graphics
5. Additionally, we intend to use 2 original Atari 2600 controllers for the game. We have found the pinout for the controllers¹ and it seems to be doable.

¹https://old.pinouts.ru/InputCables/JoystickAtari2600_pinout.shtml