

The F8 scheme defines two "hot spots" used by the game program to switch between two unique 4KB memory sections (or banks) of the ROM. Having 2 4KB banks gives the system a possible 8KB of accessible data space. If the game accesses address 1FF8, the first 4KB bank is used. If the game accesses address 1FF8, the second 4KB bank is used.

The F6 scheme is identical in theory to F8, except there are 4 "hot spots" defined to switch between 4 unique 4KB memory banks. Having 4 4KB banks gives the system a possible 16KB of accessible data space. If the game accesses address 1FF6, the first 4KB bank is used. If the game accesses address 1FF7, the second 4KB bank is used. If the game accesses address 1FF8, the third 4KB bank is used. If the game accesses address 1FF9, the fourth 4KB bank is used.

The F4 scheme is also identical in theory to F8 and F6, except there are 8 "hot spots" defined to switch between 8 unique 4KB memory banks. Having 8 4KB banks gives the system a possible 32KB of accessible data space. The banks are selectable by accessing one of 8 addresses from 1FF4 to 1FFB.

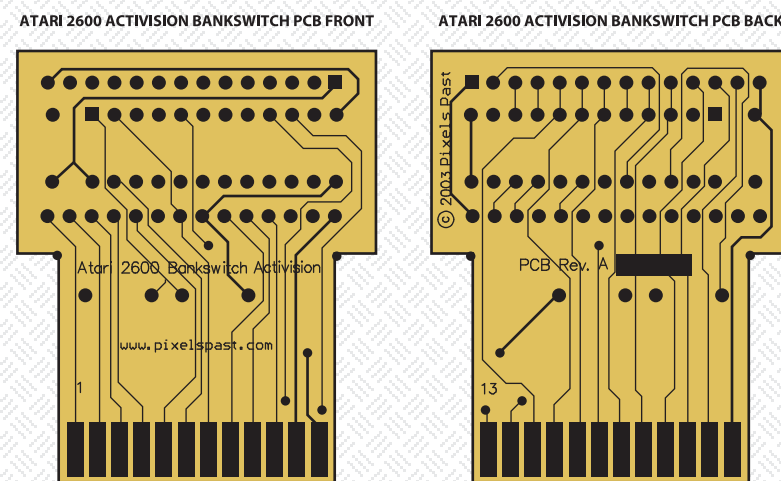
Many other types of Atari 2600 bankswitching schemes exist. For detailed descriptions of the various bankswitching schemes, refer to the internet webpage www.tripoint.org/kevtris/files/sizes.txt written by Kevin Horton.

Additionally, the Atari 2600 was designed to use special ROM (Read-Only Memory) devices which implement an active-high Chip Enable (CE) line. Currently available memory devices, such as the commonly used EPROM (Erasable Programmable Read-Only Memory, which are erasable with UV light and reprogrammable) use an active-low CE line. Because of this, an inverter is needed to change the logic level of CE as it comes from the Atari 2600 before it is connected to the EPROM. The programmable logic within U2 is used to invert the A12 address line, which is used by the Atari 2600 as the Chip Select.

R1 and C2 form an RC time delay of 220nS, which gives the address bus signals from the Atari 2600 time to settle before they are read by U2. The delay helps to prevent glitches in cartridge operation and ensures that the correct address is actually specified on the bus before the switching of banks actually occurs.

C1 serves as a bypass/decoupling capacitor to help reduce electrical noise on the power supply line coming from the Atari 2600 system. The circuit will

function without C1, but voltage spikes could cause irregularities in cartridge operation, so it is highly recommended to install it.



DISCLAIMER:

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2600 ACTIVISION

PIXELS PAST ATARIAGE 8K/16K/32K PCB ASSEMBLY

FEATURES:

- Create 8K, 16K, and 32K games for the Atari® 2600™ system
- Supports standard Atari F8, F6, and F4 bankswitching schemes
- Uses easily available, off-the-shelf components
- Fits into standard Activision cartridge cases for the Atari 2600
- Build new Atari 2600 games without modifying old cartridge circuits

DESCRIPTION:

Pixels Past's Atari 2600 Activision 8K/16K/32K PCB (Printed Circuit Board), also known as the Atari 2600 Activision Bankswitch PCB, provides homebrew game authors with an easy method of creating their own videogame cartridges. The PCB, which fits in standard Activision cartridge cases designed for the 2600 works on any 2600 or compatible system, supports 8, 16, or 32KB Atari game binary that use the standard Atari F8, F6, or F4 bank-switching schemes. Activision-specific bankswitching schemes are not supported at this time. These boards have been designed with the hobbyist in mind--simple to assemble with extremely high-reliability. They have been tested with the most stubborn Atari 2600 systems.

The Atari 2600 Activision Bankswitch PCB is easily assembled by anyone with basic soldering skills, and most of the required components are included with your purchase from AtariAge. The Atari 2600 Activision Bankswitch PCB is designed for game developers who do not want to go through the hassle of modifying old cartridge circuit boards. These are brand new boards designed by Pixels Past (www.pixelpast.com), not recycled boards from old games.

