

# Supergaming

## FREEZE!

### Install Your Own Pause Button Without Delay

by Bob Guerra

The game's *Turmoil*. You reach level eight and the alien traffic lanes become invisible. Five different types of enemy ships dart dangerously back and forth across the center alley. You spot a prize up in the top left corner but it's too late. It becomes a Supersonic Cannon Ball. You fail to blast an arrow in time and it becomes a fast-moving Tank. Your palms sweat as you struggle valiantly to hold on to your last remaining ship. You continue to zap enemy ships but your aching left thumb feels as if it's about to break off. An indestructible Ghost Ship closes in but there's nowhere to go. In a last ditch effort, you reach for the pause (Color/B&W) switch on the console . . . sorry, your last ship has just been reduced to space rubble.

When companies such as 20th

Century-Fox and Spectravision began employing the Color/B&W switch as a pause for their Atari VCS compatible games, they almost did a great thing. While a pause switch is invaluable when playing fast-paced action games like *Turmoil*, *Nexar* and *Cross Force*, having to reach for the game console during the heat of battle often results in the loss of a game life.

Fortunately, for about \$10.00 you can turn your standard Atari joystick into a Superstick, which will not only allow you to pause certain games (without taking a hand off the stick), but will provide game select, and game reset functions as well. On these pages are the simple, step-by-step instructions to perform this modification.

Here are the materials you will need:

1. One 6' joystick extension cable. Suncom, Inc. (270 Holbrook Dr., Wheeling, IL 60090) makes a beauty that retails for only around \$5.95.

2. One subminiature SPST toggle switch, (catalogue number 275-612 from Radio Shack is a perfect size and will only set you back \$1.69).

3. Two miniature push button switches, (momentary SPST contacts), also available from Radio Shack, come in packages of five for only \$2.49. (Catalogue number 275-1547). Be sure to get the "normally open" type.

4. A soldering iron.

5. Rosin core solder.

6. An electric drill.

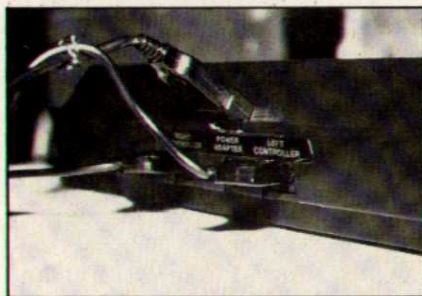
7. Wire cutters.

8. A small Phillips head screwdriver.

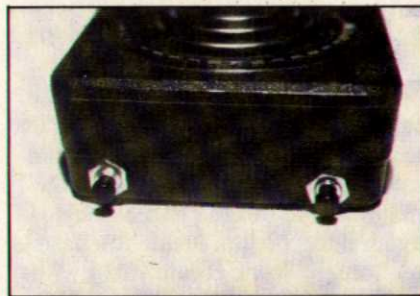
9. An X-acto modeling saw.



The Pause Button as it will appear on the front of the VCS joystick.



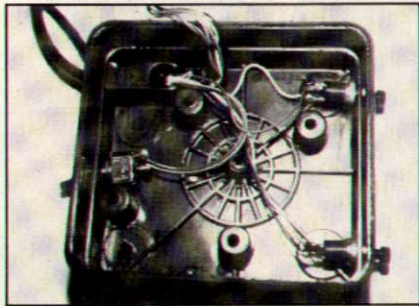
Rear of the console with both the modified and regular joystick attached.



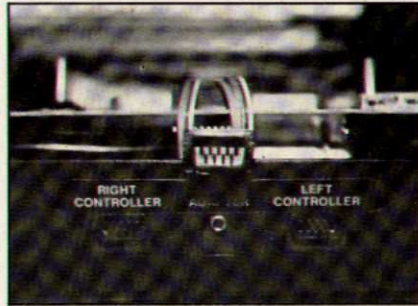
Game Reset and Game Select buttons on the rear of the joystick.



*Wiring detail of the Atari VCS Color/Black & White Switch.*



*The internal wiring of an Atari joystick switches.*



*The jack in position at the rear of the VCS console.*

## **MOUNTING THE SWITCHES**

Begin by removing the four Phillips head screws from the bottom of the joystick. Lift off the top portion of the stick and set it aside along with the red action button. Be careful not to lose the small spring that the button rests on; springs are carpet-camouflaged.

Inside the base you will find a rectangular circuit board attached to six colored wires. Leaving it attached to the wires, gently lift it out of the base. Now you're ready to drill three holes for your switches.

The toggle should be mounted as low as possible, in the center of the front of the base. Mount the pushbuttons about two inches apart, on the rear of the base. (See photo). The holes should be just big enough to allow the threaded shafts to slide through snugly.

Once the holes are drilled, remove the hex nuts from the switches, slide the shafts through as far as possible from the inside, and secure the switches in place with the hex nuts.

## **ATTACHING THE EXTENSION CABLE**

Cut the joystick extension cable into two pieces at about eighteen inches from the female, or jack end. Set this section aside. Take the cut end of the remaining long section, and squeeze it through the same hole in the joystick base where the regular joystick cord enters. Pull it through until the two plugs are the same distance from the base. You may have to cut the end of the cord again if the portion inside the base is too long to work comfortably with.

Carefully strip off almost all of the black casing from the end of the cable inside the base. Use the wire

cutters but be sure not to sever any of the thin colored wires inside the casing. Fortunately, the Suncom cable holds nine colored wires, so if a couple accidentally get cut, you'll still have enough for this modification.

Select six of the nine wires and strip about 1/4 inch of insulation off of the end of each. Solder two wires to the two solder lugs on each of the three switches. The remaining three wires should be cut back to the cable casing to keep them out of the way. Now write down which colors you've chosen for each of the three switches so the proper connections can be made inside the console of the VCS.

Set the circuit board back in place (it should sit nicely above all the new hardware you've installed), reattach the top portion of the stick, and you're ready to prepare the console.

## **MOUNTING THE JACK**

Begin by removing the six recessed Phillips head screws from the bottom of the VCS. *Do not remove the two exposed screws in the center of the base.*

Once the top panel is removed, cut a 7/8 inch wide notch in the plastic above the words "Power Adapter" at the rear of the console. Carefully push apart the twelve colored wires at the back of the circuit board, and feed through the remaining cut end of the extension cable. Run it below the board toward the reset switch. At the end of the board, bring the cord up and around the front of the board. The end should reach the Color/B&W switch.

With the jack sitting firmly in the notch you've cut, strip off the black casing, back to about eight or nine inches from the jack itself.

It's now time to do some more soldering.

You'll notice that all of the game's switches sit above six flat metal posts (three on each side). To connect the jack, begin by soldering the two colored wires corresponding to the colors soldered to the toggle switch, to the right center and right bottom posts of the Color/B&W switch (see photo). Likewise, solder matching pairs of wires to the same posts of the Game Select and Game Reset switches. By selecting the proper pairs of wires, you can determine which push-button at the rear of the joystick will control each of the two functions. Again, cut back the three unused wires to the casing, to keep things neat.

Finally, a large notch will have to be taken out of the cover where it hits the new jack. Be sure the jack fits tightly, however, so it will stay in place once the top panel is in place and the screws have all been tightened. Once the VCS is reassembled, plug in your newly modified joystick, (both plugs) and you're ready to go. Or should I say stop?

In addition to freezing the action of certain games, the toggle switch on the front of your joystick will also control the raising and lowering of shields when used with Starpath's *Phaser Patrol*, summon the Galactic Chart during a round of *Starmaster* by Activision, or allow you to check your wound/thirst scores when trying to solve the *Riddle of the Sphinx* (Imagic). In fact, the more uses game designers devise for the Color/B&W switch, the more useful this modification will become.

Even with all the new functions on the joystick, all console switches will work as they always have. Enjoy the project and happy gaming! □