

Because the CHIP-8 interpreter normally expects R1.1 to be initialized to the display page when RUN is flipped on, we have to add an additional patch at OCF0 (or anywhere you like - see Table 3). This patch must be the first code executed when you run a CHIP-8 program. The original code in the CHIP-8 interpreter at addresses 0000-0005 is not used.

<u>ADDRESS</u>	<u>CODE</u>	
OCF0	F807	;Put 07 in RB.1 for CHIP-8 display page
OCF2	BB	
OCF3	FF01	;Subtract 1 for CHIP-8 variable storage area
OCF5	B2B6	;Put 06 in R2.1 and R6.1
OCF7	C000	;Long branch back to address 0006 to start
OCF9	06	

Note: There is no easy way to use the same display page for both the OS and for CHIP-8, so now the OS uses page F and CHIP-8 uses page 7. Using this method, you can display instructions for using the operating system in page F and won't destroy it when you run a CHIP-8 program. Enter the code from Table 5 if you want the instructions displayed on the screen when you bring up the OS. Your name or other info can be inserted at address 0F10 through 0F37 if desired.

TABLE 3 - CHIP-8 PATCH

As you have seen by now, the modifications are very minor. We've only changed the I/O instruction code, page address code, and EF flag instructions. You can experiment and change the software to suit your individual purposes. Refer to table 4 for a memory map of your VIP/ELF-II code. You will probably want to relocate some code if you have very large CHIP-8 programs to run. All programs written in CHIP-8 with no machine language subroutines should work on your ELF-II. You will probably have to modify VIP machine language programs to run on the ELF-II because of the VIP executing some code in the OS before executing a program at address 0000. At first glance, it may look like the VIP executed machine language programs beginning at 0000, when it really goes to address 8000 and initializes R1.1 before jumping to 0000. Keep this in mind and you should have no problems.

In general, you may now run any CHIP-8 program that only requires a single key depression without making the keyboard modifications. If you have made the keyboard mods, you're ready to run any VIP game written in the CHIP-8 language.