

# VIDEO EQUATIONS PROGRAMING GUIDE:

30/01/2018 Rd Jordan / Cat Full of Ghosts Electronics

This guide will take you through how to load alternative operating systems on the VIDEO EQUATIONS.

*A little bit about how the Video Equations (VE) handles its firmware. The VE uses a Parallax Propeller as its main brain. When you start up the VE the Propeller reaches out via i2c to a small 8 pin eeprom which contains the firmware (or program) that the VE runs. By swapping out the eeprom or by reprogramming it you can load new software onto the VE. Because I still use the VE to VJ I am slowly working on new firmware/programs for it. This guide will help you load these new programs onto your device to use/test and also return to your original OS/firmware.*

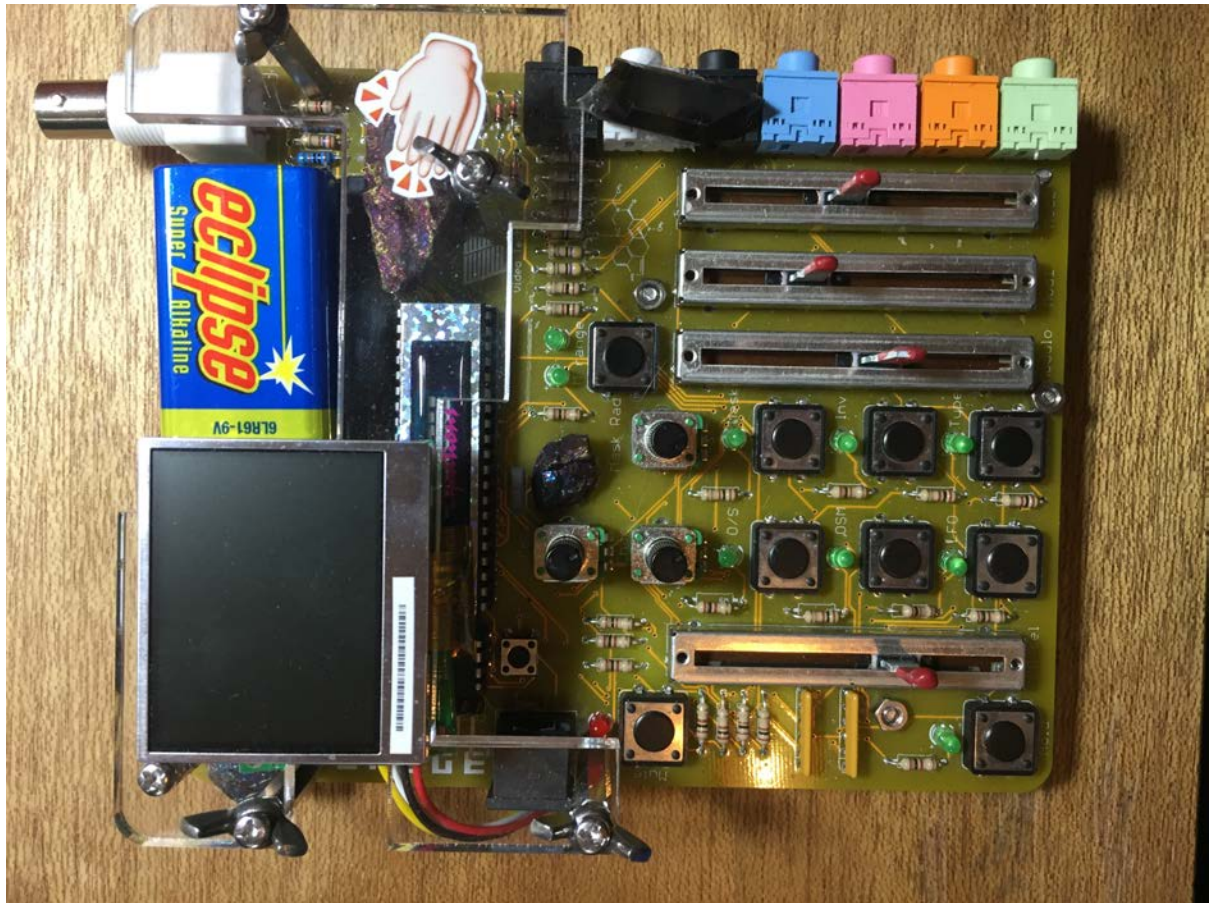
## WHAT YOU WILL NEED:



A prop programmer, <https://www.parallax.com/product/32201>

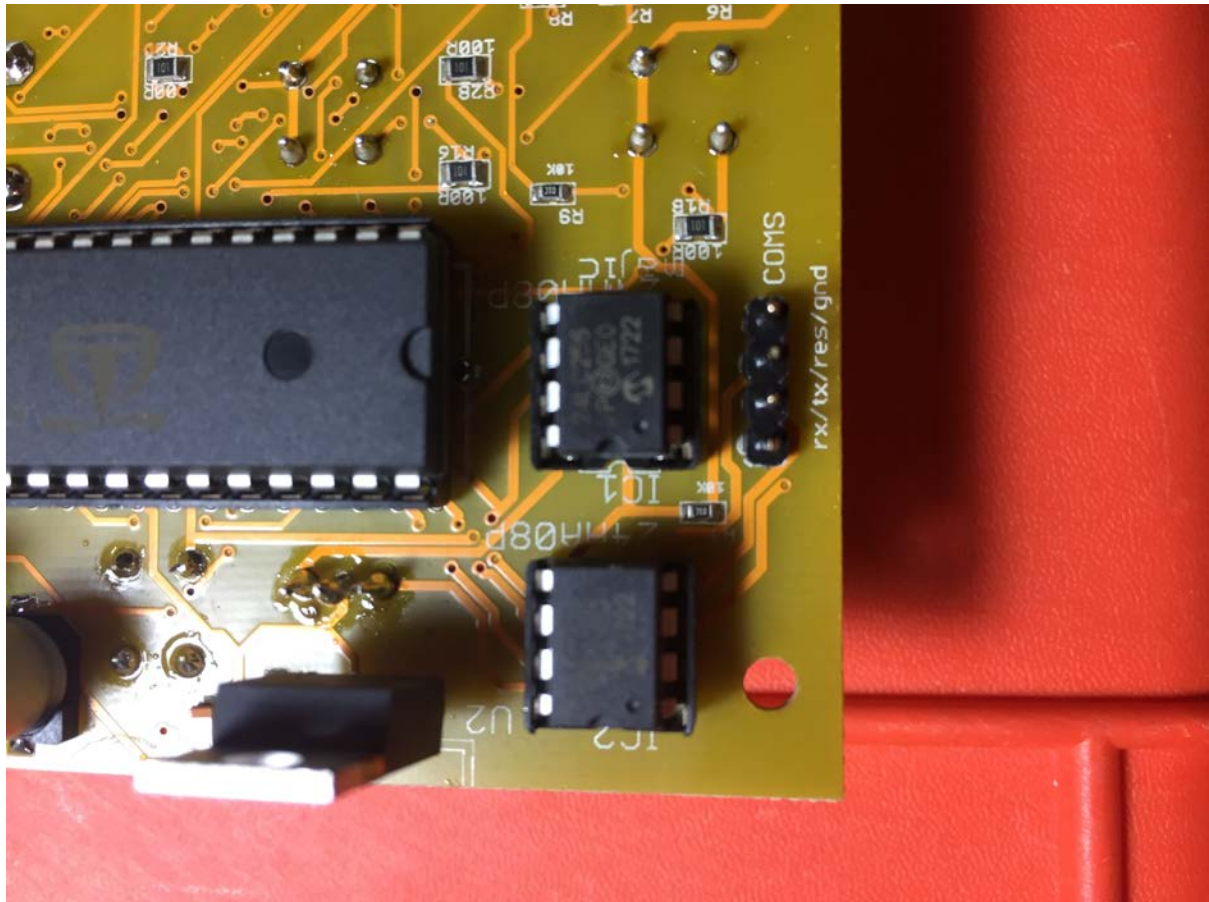
There are other devices that can program a Parallax Propeller, but the simplest method is using a USB Prop Plug.





A video equations... OBVIOUSLY! This method will work on any version of the VE.

STEP1:



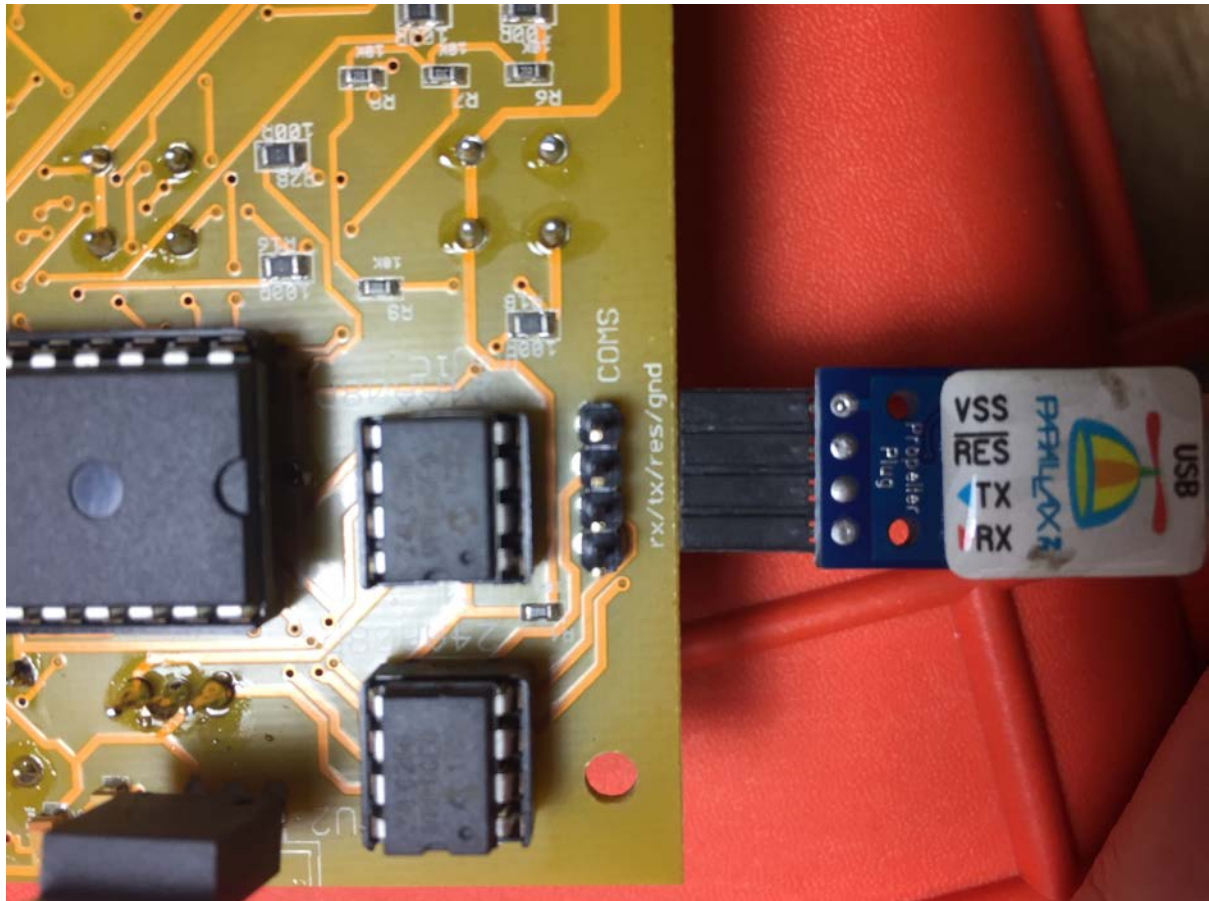




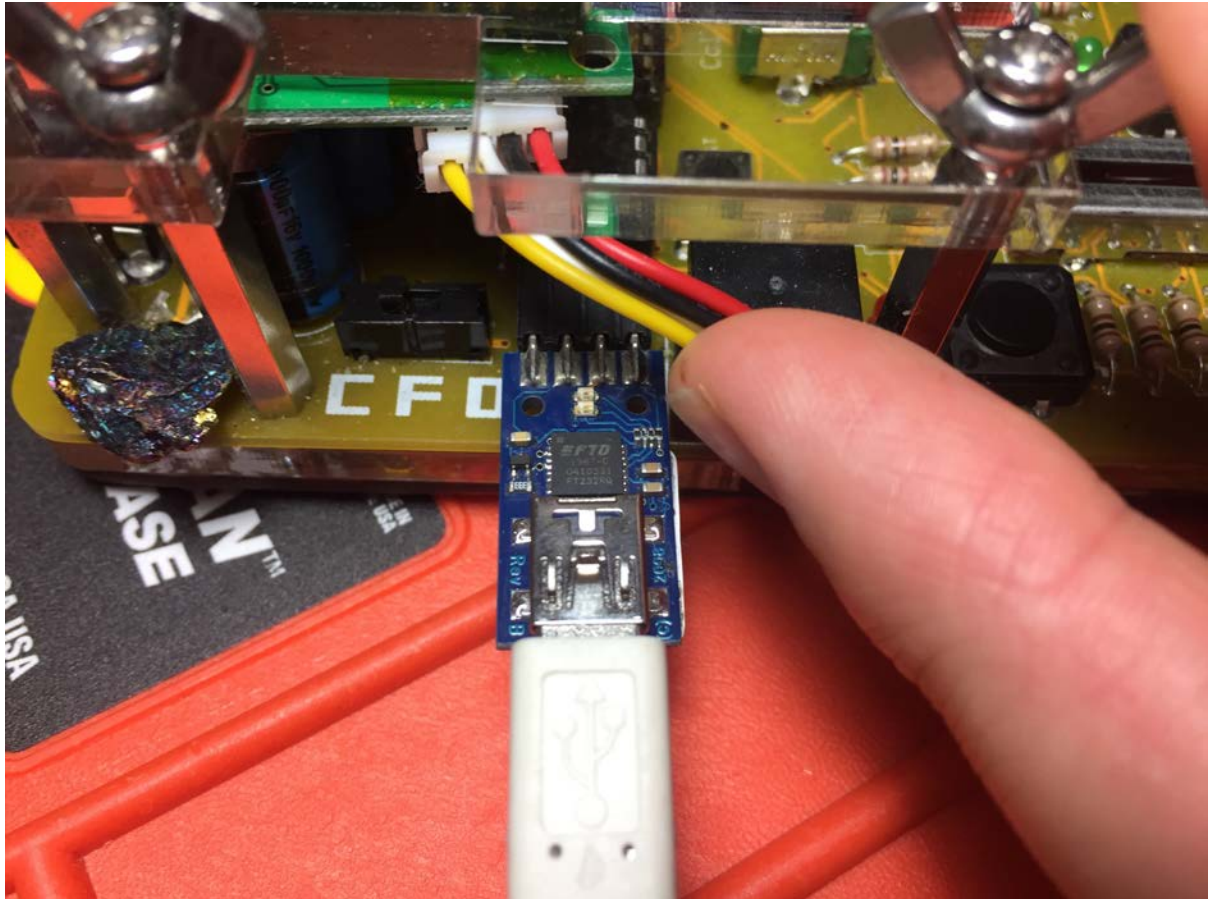
Locate the programing header on your device, there will be 4 pins, they may be unlabelled if you have an early version of the VE.

STEP2:

PLUG IN THE PROP PLUG CORRECTLY!



On a eurorack VE the programmer plugs in like this.



on a standalone it plugs in like this, with the vss/gnd pin facing the power jack.

**IF YOU HAVE DONE THIS CORRECTLY THE POWER LED WILL DIMLY ILLUMINATE WHEN THE PROP PLUG PROGRAMER IS PLUGED INTO YOUR USB. IF THIS DOESN'T HAPPEN CHECK YOU HAVE THE PLUG THE RIGHT WAY AROUND.**

**STEP3:**

Download the IDE for the Propellor:

MAC >> <https://www.parallax.com/downloads/propelleride-software-mac-spin-pasm-propbasic>

PC >> <https://www.parallax.com/downloads/propeller-tool-software-windows-spin-assembly>

LINUX >> <https://www.parallax.com/downloads/propelleride-software-linux-spin-pasm-propbasic>

**STEP4:**

Download the firmware/programs you wish to upload.

[www.catfullofghosts.com/veprog](http://www.catfullofghosts.com/veprog)

Here are some programs, they may not be the latest based on then you are reading this.

**STEP5:**

Open the .spin file with a XXX at the start in your IDE any file with an XXX at the start is a program, the other files are support files.



STEP6:

Power up you VE, your VE needs to be on to program. The power LED should change from dim to bright.

Step7:



All three of these icons will change from dimmed to bright and you will be able to click on them. If you are unable to you may not have the programmer plugged in correctly, the Video Equations may not be powered on, or your computer may not have recognised the programmer. The first two issues are covered above, for the third, try unplugging and replugging, using a different usb port.

**The arrow right button will load the program into volatile ram >>** That means it will put the program on your VE but it will not remain after you power the unit off.

**The arrow down button will load the program into EEprom >>** this means that the program will remain after power is removed.

Step8:

**YOU ARE DONE!!!**

New beta software can be unstable and crash the machine, or may seem sluggish in places, its experimental and should be treated as such.

**If this guide at all helped you and you want to say thanks, I have a PayPal donation button here:**

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