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For when an iPhone X just isn't fun enough

Saturday, April 22, 2017

RC2014 Pageable ROM with a 28C256 EEPROM

This quick article shows how to configure the RC2014 Pageable ROM module for use with a 28C256 EEPROM.

The RC2014 kit was designed for use with a 27C512 EPROM/ROM device.

If your method of software development is write-burn-test-fail-repeat then a 27C512 device is not for you, even if you were using the EPROM version: UV erase does take a bit of time.

Enter the 28C256 EEPROM device. This 32KB device is electrically erasable and programmable. Which means that if you are at "fail" in your development cycle, just plunk it back into the device programmer and write in a new version of the code (after having electrically erase it, of course, which takes only a few seconds).

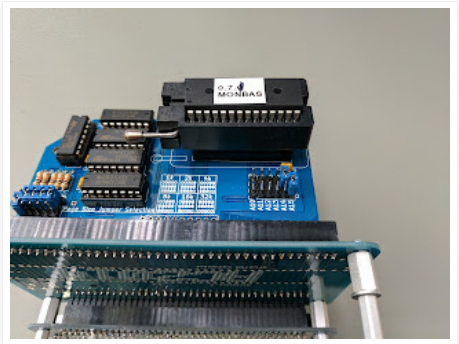
Unfortunately, the geniuses who came up with the 28C256 decided to not use a standard (JEDEC) or compatible pin-out. As a result, if you were to compare the 28C256 with its EPROM equivalent, the 27C256, you will find that Pin 1 and 27 are swapped.

In the 28C256, Pin 1 is A14, and Pin 27 has to be tied high (Vcc). This is the reverse of the 27C256.

On my RC2016 Mini, I had to do a rewire.

Fortunately, Spencer designed the Pageable ROM module to be a lot more versatile. And all you need to do is to make sure that the jumpers are set correctly.

The following picture shows the jumper setting I use for "Page Selection". Note that A14 is set to 1 and A15 to 0.



Next is the page size selection. Since I am running the Monitor/Debugger+BASIC, I need a page of 16KB.

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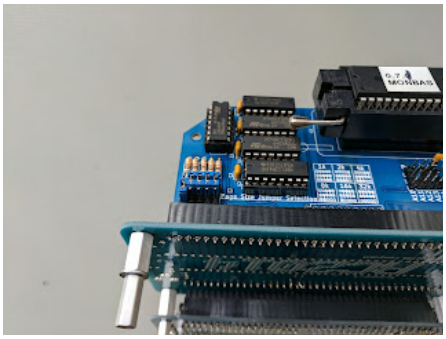

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