

Use a "Multi" Type Bios in a Dual Booting TSOP

* This mod will not work on a v1.2 xbox because the tsop is only 256K. DO NOT attempt on a v1.2 xbox.
** You do this mod at your own risk. The author of this tutorial and anyone that hosts it will not be held responsible for your actions if you damage your xbox. Read this tutorial carefully or you could end up with a \$200 door stop.

A Little Background

Alright kiddies, here we go again, another quality (or not) Dummy tutorial from The Dude.

So, you would like to flash the xbox tsop, but you want to use a "Multi" Bios along with a retail bios to be able to dual boot. What's a multi bios you may ask? It is a bios that you can use on v1.0, v1.1 and now v1.2 Xbox's. The Executor 4974 and newer are all a multi bios as well as the EvolutionX D.6. Very Convenient for some, but for those of us that would like to use it with a retail bios on our TSOP, it just won't work. Why? We won't go into any huge detail here, but to make a long story short the retail bios and the multi bios are too different to work together. As you should all know by now your xbox tsop is 1024K. Each tsop contains four 256K BIOS's, all alike, or different. When your xbox boots up by default it uses the last 256K of the tsop as the bios, but soon after the xbox "double checks" (lets say) the first 256K of the tsop. If the last and first 256K of the tsop differs too much the xbox will invalidate the bios and the boot will fail. With BIOS's like Executor 4973 and older as well as Evox 2.6, 3.6 and older the xbox had no trouble booting with these BIOS's along with retail because they were "Version Specific" and were very similar to retail. So with all that out of the way, its time to get to work.....

The original method for switching a multi bios tsop was to solder a wire from the A19 test point on the motherboard to a SPST switch, then a wire from that switch to any ground point on the xbox motherboard. By forcing A19 to ground you cause a 0v condition causing the xbox to only be able to see the first two 256K parts of the tsop. A custom bios needs to be created for this purpose. The bios looked like...

Original+Original+Modified+Modified

And of course the Modified bios was a version specific type. When the switch was closed (on) A19 is grounded and the xbox can no longer see the last two 256K parts of the tsop, hence booting the original bios because it uses the last 256K of the tsop that it can see. When the switch is open (off) the xbox can see the entire 1024K of the bios (as normal) booting the modified bios. There would not be a conflict between the last 256K and the first 256K, if you are using a version specific modified bios.

Creating a Dual boot Tsop using an original bios and a multi bios and Flashing with the 007/Evox Game Save Hack

Tools and Supplies

007/Evox Gamesave Hack (Get it in #xbins on Efnet)

007 Agent Under Fire (Must be Retail Game)

XBOX Memory Card

Soldering iron

Solder

Flux (if necessary)

Desolder Braid (if you're a dip shit)

SPDT Micro Switch (or a big one if you like that)

Wire (thin as possible)

(If your tsop is already flashed with a modified bios but you just want to dual boot, 007 Gamesave, Game and memory card not required)

All the damn tools you use to take your xbox apart, if you don't have them by now, or don't know how by now, just stop now.

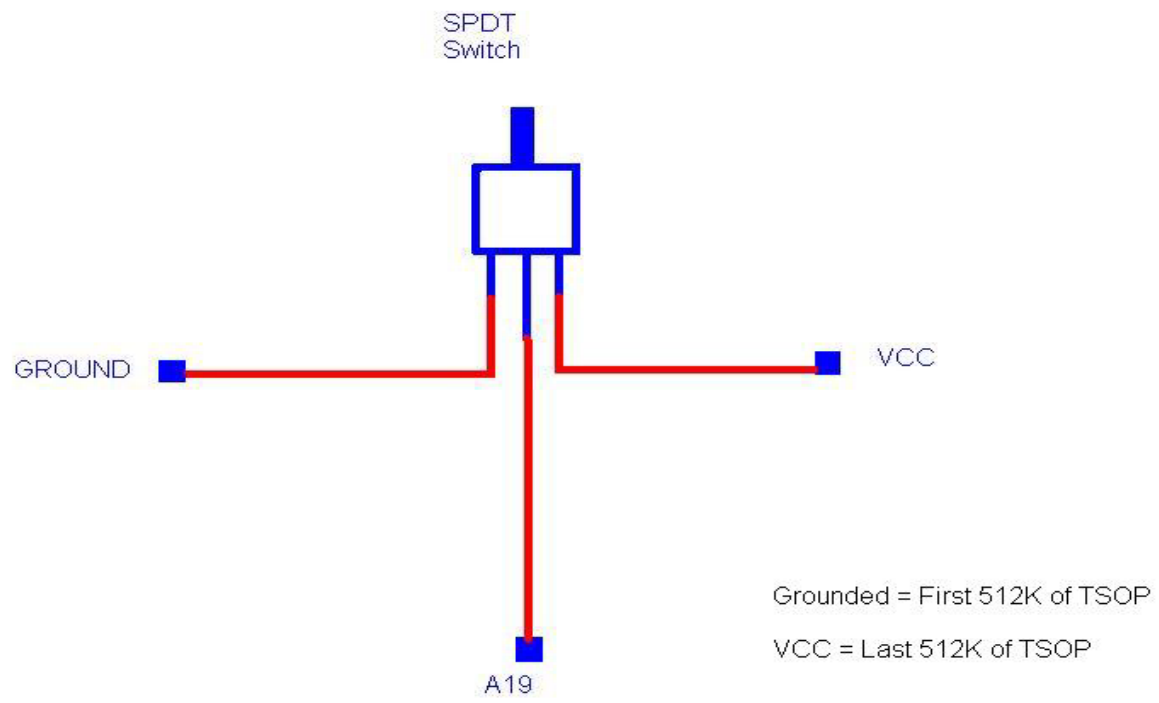
Now we must have a way to split the xbox tsop in two so when we boot one way or another the xbox can only see one half of the tsop at a time. Before grounding a19 would cause only the first half of the tsop to be visible, but ungrounded the xbox can see the whole tsop. In order for the xbox to only see the Second half of the tsop we must force VCC to a19. It is just that easy.

-=Installing the switch=-

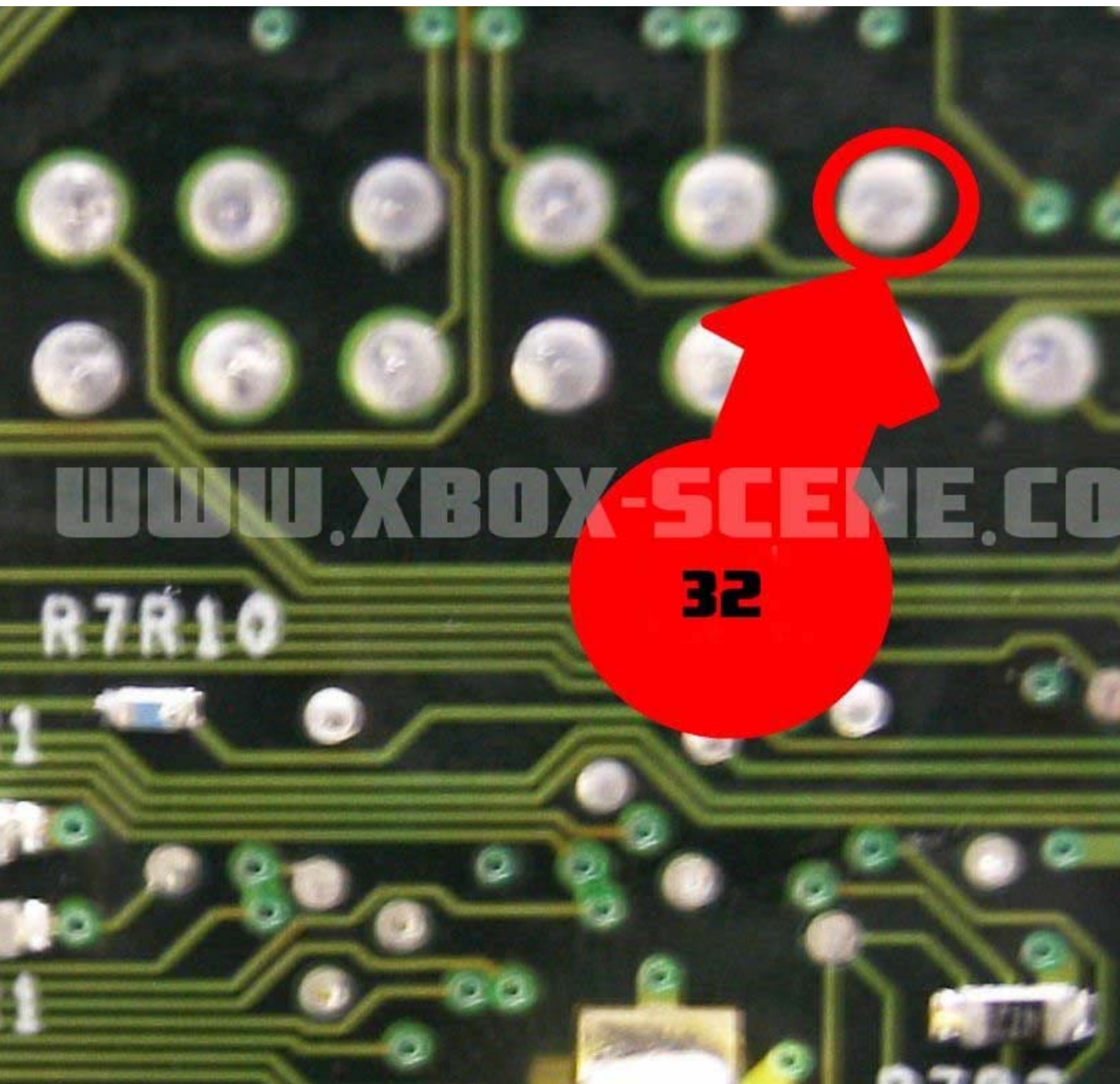
You have your SPDT switch and it looks something like this....



Cut yourself 3 pieces of wire probably about 10 inches long (25 centimeters for you European folks) and solder them to the 3 points on the bottom of the switch. You must remove the xbox motherboard because you have to solder the wires from the switch to the bottom. You want to solder the center wire to the A19 test point on the motherboard. Now solder one of the wires on one side to a ground point on the motherboard. The other unsoldered wire you will now solder to Vcc, preferably the big fat point on the LPC. Remember which point on the switch you soldered to either Vcc or Ground. Here is a really stupid looking diagram, but you get the picture. Also two pics of the motherboard showing you were A19, Ground and Vcc should be.....



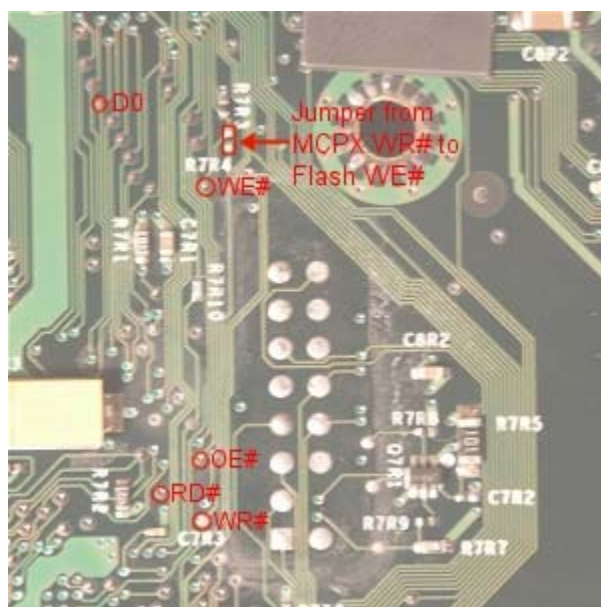
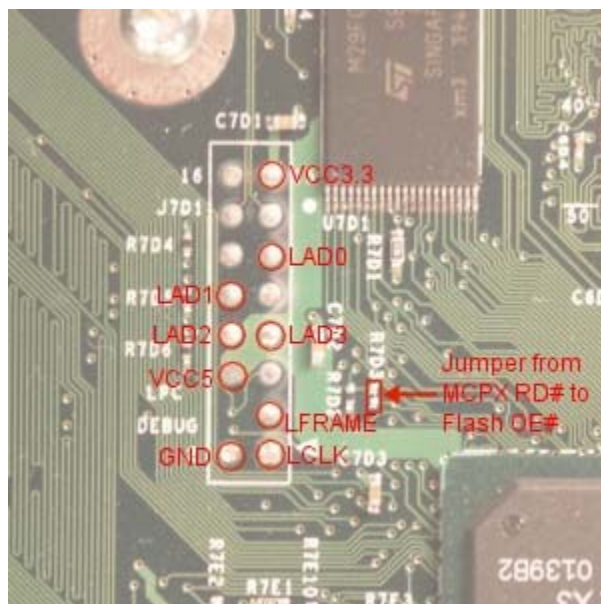




Mounting the switch is entirely up to you. There is a very good tutorial on mounting a switch without drilling the xbox on [xbox-scene.com](http://www.xbox-scene.com). Just be creative. So now you have your switch wired in, it is time to flash the tsop.

-Flashing the TSOP=-

As many of you know, there are two sets of jumpers on the xbox motherboard that must be bridged (soldered together) to allow write access to the xbox TSOP. Here are two pics of the xbox motherboard for the locations of the solder points, one set on top, one set on the bottom.....



So now you have your switch and your write access jumpers soldered. If you are confident with your work, put your xbox back together, if you aren't then assemble the xbox together so that it can be taken apart easily. (NOTE: Future steps of this tutorial require you to put the 007/evox gamesave hack on your xbox hdd. If you do not have the means to put the gamesave hack on a memory card and must put the gamesave on your xbox hdd using the linux hot swap method, do not reassemble your xbox yet.)

Now we must put the 007/evox gamesave on your xbox hdd. First we must add to the game save. In the same folder the evox .xbe file is found you must create a folder called BIOS. Inside of that folder you will place a 512Kbyte modified bios of your choice. I recommend using a color type bios or a bios that changes the text underneath the Green X during boot (Like the Executor2 bios does) so that you will know the difference between your retail and modified. Yes, yes all new bios' come 256Kbyte. In order to make the 256K bios 512K there is a simple dos command to do so. Open dos prompt and navigate to the directory with your 256K modified bios. Now type...“biosname.bin+biosname.bin bios512K.bin” (without the quotation marks you idiot). Now take bios512K.bin (or whatever you named it) and put it inside of the BIOS folder you created in the gamesave. Now if you have the means (like another modified xbox or megaX key) put the gamesave on a memory card. If you do not have the means to do so, there are other options. There is a tutorial on xbox-scene.com explaining how to put the game save directly onto your xbox hdd using linux. Also there is now apparently a way to put the xbox game save on a memory card using Action Replay for xbox (haven't done any research, so you're on your own). You now have your game save on your memory card, plug it into your xbox controller and power up your xbox with NO game in the hdd. This will boot you to the xbox dashboard. Go to xbox gamesave manager and transfer the gamesave from your memory card to your xbox hdd.

Finally now we can flash the xbox TSOP. Make sure your switch is in the Vcc position, put your 007 Agent under Fire Retail game into the xbox and boot the game as normal. Go to the load game option, and load the gamesave. You will now see the EvolutionX dashboard appear on the screen. Go to system utils, then flash bios. It will give you a choice of bios to flash, and your bios file will be in that list (the only one in the list). Hit the Y button to start the flash. You will see the progress meter showing erasing, then flashing. Do not do anything to interrupt this process. When it is finished flashing, the xbox will power down. Eject the game and power up the xbox with the switch at VCC to confirm that the flash was good, then power down and power up with the switch at ground to confirm your retail bios is still working correctly. Wasn't that simple kids? You are done. With your switch at ground you will boot your original retail xbox bios; with the switch at Vcc you will boot your modified bios. Remember, when it comes to updating your modified bios, you are only flashing one half of the tsop at a time, so remember to use a 512K sized bios.

You can adapt any kind of flashing method to work with this dual boot mod. If using the 007/evox or 007/linux gamesave hack is not your cup of tea, and for most getting the gamesave on the xbox hdd is the hardest part, you can flash the entire tsop with a 1megabyte custom bios first using any of the known methods out there (29 wire flash, matrix flash, etc.). Create your bios first, for example...retail+retail+modified+modified, flash your tsop, and then install your switch. Although these methods are not as idiot proof as the one just described above for obvious reasons (bad flash and can't recover, etc.), they work just as well.

Alright now you say “But Dude I already have my tsop flashed and I just want to dual boot”. Ok then dumbass, you've already gotten that far, all you need to do is install the switch that has been described. Then boot up your favorite dashboard, like evox, nexgen, avalaunch, whatever, and flash whichever half of the tsop you want with your original bios. Remember, the original retail bios you use, must be the bios that originally came with your xbox. In other words in most cases, a 3944 original bios will not work on an xbox that originally came with the 4034 bios. Or even using one of these original bios' on a v1.1 would cause you even more trouble. Forget what your original bios was? That's the beauty of this mod. Flash the first 512K of the TSOP with your original bios leaving your modified bios in the second 512K of the TSOP. If that bios doesn't work, flip back to your modified bios, boot to your dash, then flip back to the first half and try again till you get it right.

A few notes to remember, original BIOS's will not work with an unlocked hard drive. Also Make sure that you have your Microsoft dashboard as xboxdash.xbe and your alternate dash (Evox, nextgen, whatever) named differently (evoxdash.xbe, blah, blah). Make sure also if you have a replacement Hard Disk, that it is in a locked condition, otherwise the retail bios will give you an error. Now you can enjoy your xbox and all of its potential using your modified bios, or you can switch and run

the xbox like it is a normal retail xbox. In retail “mode” you can use xbox live, just make sure you don’t use xbox live while using your modified bios.

Alright, now its time for the Thank You

First off thanks to all the xbox homebrew developers around the world, without you none of this would be possible. Thanks to Jujupinto85 for his original multibios guide, and thanks to Ant2483 for his forum post. Thanks to everyone that originally took the pictures that are used in this tutorial, you know who you are. And of course a big thank you to 101 for all his support.