Introduction

This document describes how to create and use a bootable USB stick to make it easier to install some hacks on your S3 AU/NZ TiVo. You will need a PROM mod for your TiVo in order to use these hacks.

The script has been tested with two Tivo software versions (11.3b8 and 11.3b10) it should work with both, but it is recommended to use 11.3b10 if possible.

The script will:

- Modify the kernel (kill initrd). This is required for all other changes to work
- Install some useful utilities on the hard disk
- Install ssh and telnet
- Enable the serial port console
- Add 30 second skip and backdoor menus
- Change the configuration so that guide data is picked up from the oztivo guide

This is the second step (after PROM mod) to keep your TiVo working after October 2017.

Step 1 - gather the required files

Download unetbootin. Latest (as at Sept 2017) is available here <u>https://github.com/unetbootin/unetbootin/releases/download/655/unetbootin-windows-</u>655.exe

Download the puppy linux ISO tahr-6.0-CE_PAE.iso from http://distro.ibiblio.org/puppylinux/puppy-tahr/iso/tahrpup%20-6.0-CE/tahr-6.0-CE_PA E.iso

Download the tivo installer from hd.oztivo.net (current version is 0.6)

Step 2 - Create the USB Boot disk

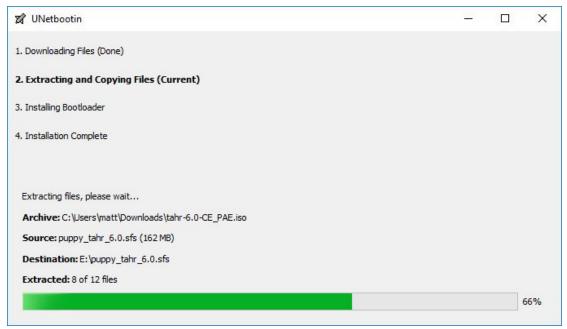
You will need a USB disk formatted on windows (FAT32) to build your boot disk. You don't need lots of capacity. 4GB is more than enough.

Run Unetbootin, select ISO file and browse to the location of the tahr-6.0-CE_PAE.iso that you downloaded in step 1

🕱 UNetbootin					<u></u>		×
O <u>Di</u> stribution	== Select Dis	stribution ==	•	== Select Version ==			•
Welcome to UNetboot	<u>in</u> , the Universal N	letboot Installer. Usage:					
		i to download from the li press OK to begin install		ually specify files to load	i below.		
Diskimage	ISO 👻	C: \Users \matt\Downlo	ads\tahr-6.0-CE	_PAE.iso]	
	e files across rebo	ots (Ubuntu only): 0					-
Space used to preserv	e nies across repu						MB

Make sure that you have selected the correct USB drive and click 'OK'

Unetbootin will copy the relevant files from the ISO image to the USB, and make it bootable



Once the installation is complete, you can exit unetbootin

🛱 UNetbootin			<u>100</u> 7	×
1. Downloading Files (Done)				
2. Extracting and Copying Files (Done)				
3. Installing Bootloader (Done)				
4. Installation Complete (Current)				
After rebooting, select the USB boot option in the BIOS bo	oot menu.			
	r			
	L	Exit		

Now to add the TiVo installer files. Open the installer zip file (tivo_installer_x.y.zip) where x.y is the version number.

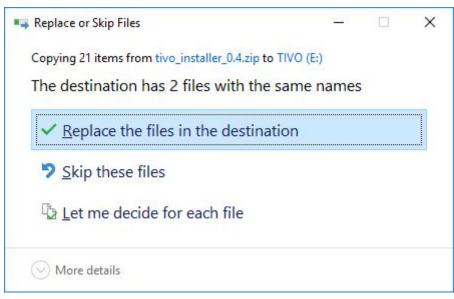
Name	Туре	Compressed size	Password	Size	Ratio	Date modified
installer	File folder					28/10/2017 11:11 AM
🖂 boot.msg	Outlook Item	1 KB	No	1 KI	3 2%	10/10/2017 11:04 AM
isolinux.cfg	CFG File	1 KB	No	1 KI	3 26%	21/09/2017 10:00 PM
oztivo.16	16 File	2 KB	No	10 KI	8 89%	10/10/2017 11:15 AM
syslinux.cfg	CFG File	1 KB	No	1 KI	3 27%	21/09/2017 10:00 PM
tahrsave-tivo.2fs	2FS File	1,732 KB	No	32,768 KI	95%	29/10/2017 8:29 PM

Extract all the files to the USB drive (in this instance E:\)

Select a Destination and Extract Files	
Files will be extracted to this folder:	
E:\	Browse

You are overwriting some files on the USB, so if you get asked something like this:

Released 1/11/2017 For installer v0.6



Select the first option (replace files in the destination)

> · · 🛧 🕳 > TIVO (E:)		✓ Ö Search TIV) (E:)	م
lame	Date modified	Туре	Size	
menu.c32	29/09/2017 3:45 PM	C32 File	60 KB	
ubnfilel.txt	29/09/2017 3:44 PM	TXT File	1 KB	
ubnpathl.txt	29/09/2017 3:44 PM	TXT File	0 KB	
tahrsave-tivo.2fs	26/09/2017 10:37	2FS File	32,768 KB	
] syslinux.cfg	21/09/2017 11:00	CFG File	1 KB	
] isolinux.cfg	21/09/2017 11:00	CFG File	1 KB	
🚽 boot.cat	25/10/2014 3:27 AM	Security Catalog	2 KB	
boot.msg	25/10/2014 3:27 AM	MSG File	1 KB	
help.msg	25/10/2014 3:27 AM	MSG File	2 KB	
help2.msg	25/10/2014 3:27 AM	MSG File	2 KB	
] logo.16	25/10/2014 3:27 AM	16 File	8 KB	
puppy_tahr_6.0.sfs	25/10/2014 3:27 AM	SFS File	166,681 KB	
README.HTM	25/10/2014 3:27 AM	Firefox HTML Doc	4 KB	
🗷 initrd.gz	25/10/2014 3:17 AM	GZ File	1,274 KB	
vmlinuz	25/10/2014 3:17 AM	File	4,589 KB	
] zdrv_tahr_6.0.sfs	23/10/2014 5:01 PM	SFS File	30,080 KB	
🔄 isolinux.bin	10/12/2011 6:43 AM	Kodi	24 KB	
tivo_installer	26/09/2017 10:01	File folder		

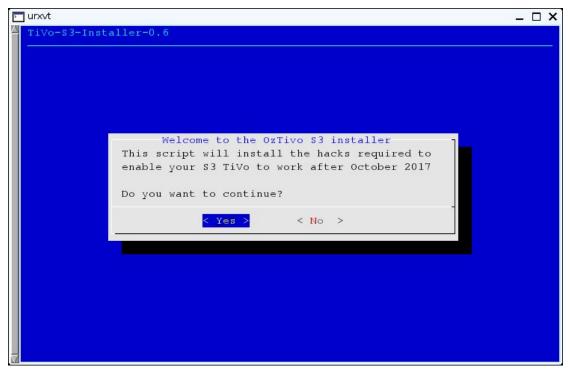
When it's finished, check the files on the USB drive. It should look something like this:

Notice, the tahrsave-tivo.2fs file and the tivo_installer directory. Now Eject the drive and you are ready for step 3.

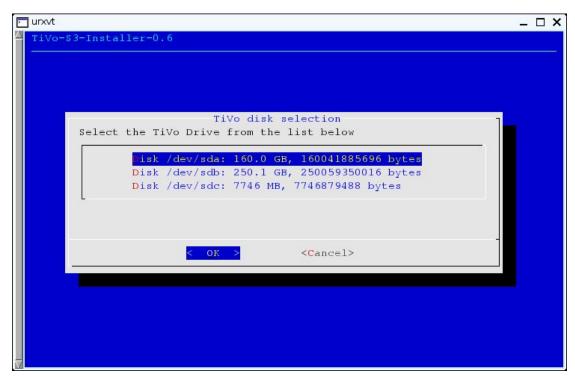
Step 3 - Run the installer

To run the installer you will need a PC that can boot from USB and has a spare SATA connector. It is recommended (though not essential) to unplug all other hard drives from your PC. You can use desktop/tower PC with SATA ports on the

motherboard. You should also be able to use a USB to SATA converter on a laptop or desktop PC, although some issues have been reported (drive not found). YMMV. Plug in your TiVo disk and the USB stick and reboot the PC, doing whatever is required to boot from the USB. The PC should boot into puppy linux and you will get this screen:



If you select 'Yes' then you will be prompted to select which drive to modify.



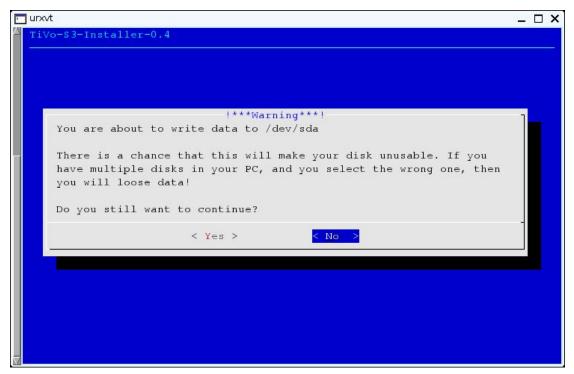
The installer will do some checks to make sure it's a valid TiVo drive. If not, you will get this message



Once you have selected a TiVo disk you should see something like this:

U	nxvt						_ 🗆	×
4	Ti	Vo Disk	Found				1	
	This looks like a TiVo disk.							q
	Do you want to use this disk?							
	Partition map (with 512 byte b	olocks) o	n '/de	v/sda'	#:		type	
	name le	ength b	ase	(siz	e) 1:			
	Apple_partition_map Apple				63@1	2:		
	Image Bootstrap l		101	54840944	3:			
	Image Kernel l	81	92 @ 1	54840952	(4.0M)	4:		
	Ext2 Root 1	52428	8 @ 15	4849144	(256.0M)	5:		
	Image Bootstrap 2		101	55373432	6:			
	Image Kernel 2	81	92 @ 1	55373440	(4.0M)	7:		
	Ext2 Root 2	52428	8 @ 15	5381632	(256.0M)	8:		
	Swap Linux swap	13107	2 @ 15	5905920	(64.0M)	9:		
					(256.0M)			
	MFS MFS application region							
	MFS MFS media region 1	54840880	@ 64	(73.8G) 1	2:		
	MFS MFS application region 2							
	MFS MFS media region 2 1							
	size=512, Number of Blocks=312	2581808 (149.1G) Device	Type=0x0,	DeviceI	d=0x0	
							-	
	< Yes >		< N	0 >				
1								

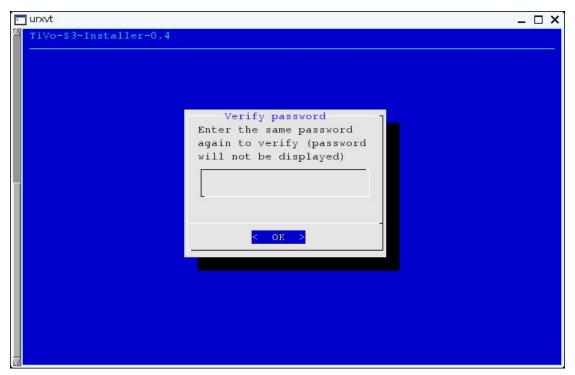
Selecting 'Yes' will give you one last chance to quit:



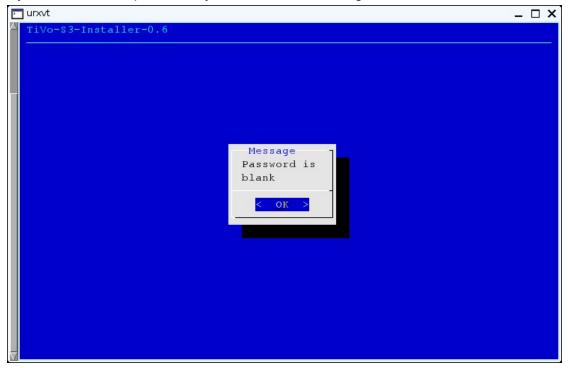
If you select 'Yes' now, the installer will prompt you for a new root password for your TiVo. The root password is required to enable ssh access to your TiVo. This will allow you to login to the TiVo once it has started.

🖻 urxvt		_ 🗆 ×
TiVo-S3-Installer-0.4		
	Enter password Enter a new password for root user on TiVo (password will not be displayed)	
	< OK >	

And then confirmation

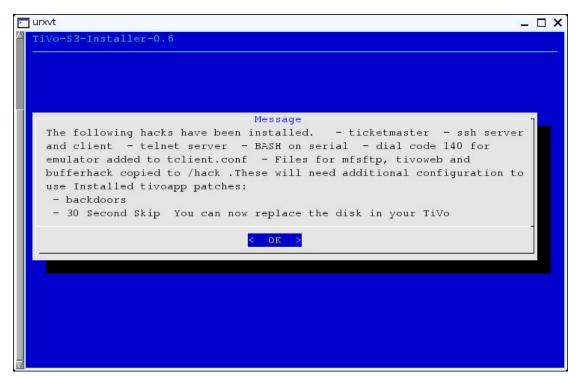


If the passwords don't match, you will be asked for them again. If you enter a blank password, you will see this message:



The installation will then continue.

A number of info messages will flash on the screen. Eventually, if all goes well, you should see this:



Select 'OK' and you will see this screen:

🖻 urxvt	– 🗆 ×
TiVo-S3-Installer-0.6	
What do you want to do next? Please choose from the following selections	
1 Show log file Shutdown 3 Quit to Shell	
< OK >	

Now select 'Shutdown' and you are done!

You can now power off your PC, put the disk back into the TiVo (which must have the PROM mod) and then start your TiVo which should boot with the hacks installed. If it all worked, the TiVo will go through it's normal (slow) boot process. Near the end of this, you will see a bunch of messages on the TV showing the hacks that have been installed.



(note, this picture is from an earlier version. Yours should look similar, but may not be exactly the same)

-- End --