ANOTHER NEW RASPBIAN RELEASE

201 Comments

Posted by Simon Long

UX engineer, cruciverbalist, slightly morose
9th Feb 2016 at 10:46 am

Some of you may have spotted that there is a new Raspbian release available for download. For most people, this is primarily updates and bug fixes to the existing Jessie image – but there's one exciting new feature that might be of interest to some people…

But before we get to that, here's a summary of the other changes.

New versions of applications

There are new versions of many of the standard applications.

Sonic Pi is now at version 2.9. A full list of changes can be found in the History section of the Info window in Sonic Pi, but the highlights include two new effects functions, a new logging system, and the inclusion of all of Sam Aaron's articles for The Magpi magazine as part of the online tutorials.

Scratch is now at version 20160115. This has improved sound input capabilities, support for the CamJam EduKit 3 robotics board, basic PWM support in the GPIO

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ANOTHER NEW RASPBIAN RELEASE

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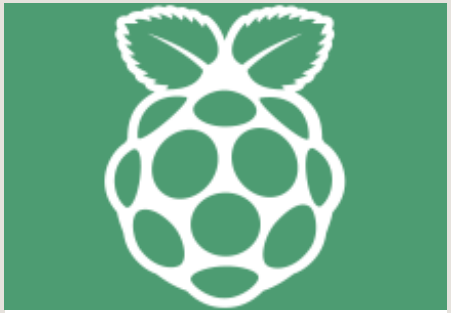


RASPBERRY PI WEEKLY

server, and various improvements to the display, including font scaling.

Mathematica is now at version 10.3. This adds support for a larger set of the functionality detailed in Stephen Wolfram's new "Elementary Introduction to the Wolfram Language" book. It also supports the use of the Sense HAT, adds interfacing to Arduino, and includes many new Mathematica functions.

Node-RED is now at version 12.5 – this adds no significant new functionality, but fixes a number of bugs and contains some internal performance improvements.

New versions of libraries

WiringPi has been updated to version 2.31, which allows GPIO pins to be accessed from applications that use the library without needing to use `sudo`. For more details, see the WiringPi website.

The RPi.GPIO Python library has been updated to version 0.6.1 which includes some bug fixes which affected the new GPIO Zero library.

The Java platform included has been updated to version 8, update 65.

Bug fixes

The volume/audio device icon on the taskbar is now compatible with a wider range of USB audio devices – people reported that it was impossible to set some USB sound devices as the default output. Due to the way the ALSA system works, it is very difficult to make this completely infallible, but the new version should work with a much wider selection of devices than before.

The Main Menu editor now allows new menus to be created. In earlier versions, due to an issue with the way the LXDE desktop environment interpreted its configuration files, creating a new menu caused all other menus to be hidden – this should now work correctly.

The GUI Raspberry Pi Configuration and command-line *raspi-config* applications now offer the correct overclocking options on all Pi 1, Pi 2 and Pi Zero boards. There are also some updated language translations submitted by the community – many thanks to the translators!

The Wastebasket is now consistently named as such everywhere when the desktop is set to British English. (It previously had a wide selection of names in different places, including Trash and Rubbish Bin…)

The `ping` command no longer requires `sudo`.

One more thing…

We hope the above changes are useful, but Raspbian will still look pretty much the same as it did for the last release in November. But we have been working on one other thing behind the scenes for this release: this won't be of interest to most users, but for some, we hope it will be very useful.

In this release we are shipping an experimental OpenGL driver for the desktop which uses the GPU to provide hardware acceleration. This is turned off by default – if you want to enable it, you can find it in the command-line version of *raspi-config*, under Advanced Options->GL Driver. Due to memory requirements, this will not work on Pi 1 or Pi Zero boards – it is solely for Pi 2. (raspi-config will only allow

If you don't use this option, the desktop does have OpenGL support, but it uses a very slow software renderer, which makes all but the most basic OpenGL applications pretty much unusable. The hardware-accelerated version is much faster, and makes some quite decent OpenGL games playable on the Pi.

As a quick demonstration of the effect of the driver, try installing the *mesa-utils* package with

```
sudo apt-get install mesa-utils
```

This installs a simple OpenGL demo program called *glxgears* which shows three rotating gear-wheels. To run it, type

```
glxgears
```

With the standard software renderer, this runs at around 23 frames per second, flickers a lot, and doesn't actually show the correct colours. If you try it again with the new driver enabled, it runs at the screen refresh rate of 60 fps, with no flicker and the correct colours.

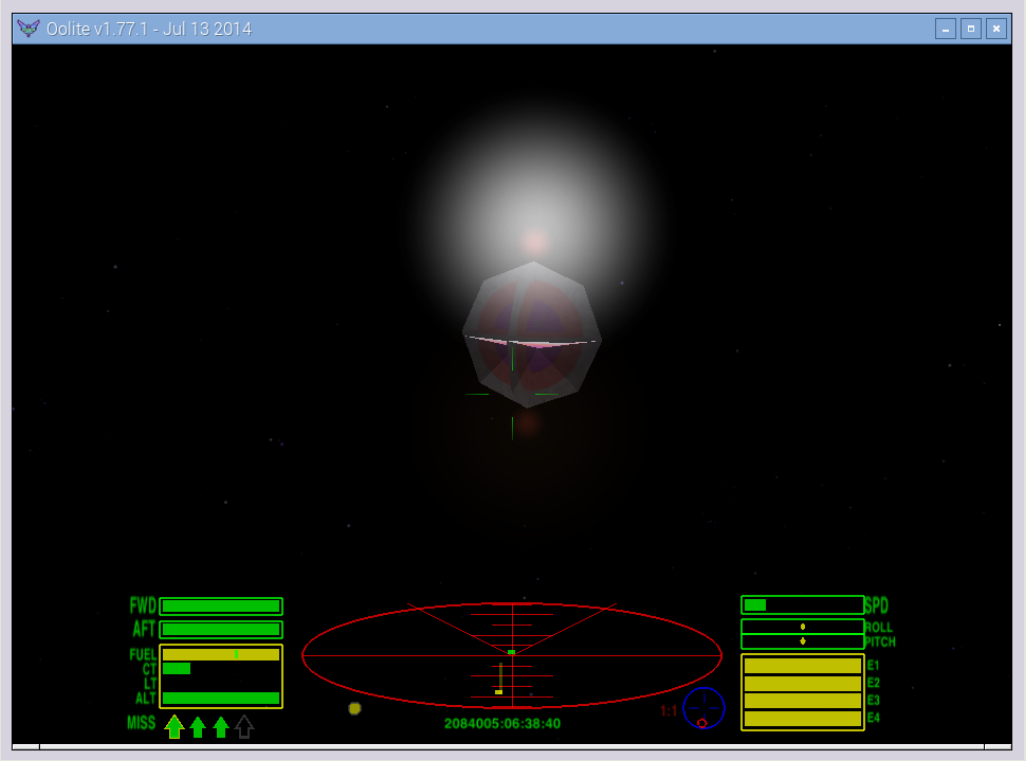
Rotating gears are all very well, but they aren't that exciting, are they? So how about some actual games? One that is popular in the office is Neverball – try

```
sudo apt-get install neverball
```

This barely runs at all under the software renderer, but is quite slick and playable with the new driver.

Or try Oolite, which looks quite similar to another game that those of us of a certain age remember fondly.

```
sudo apt-get install oolite
```



There are various other OpenGL games and applications available in *apt* – to find them, try

```
apt-cache search opengl
```

Bear in mind that this is an experimental release of the driver which we are making available to the community as a public beta test; it is still slightly unstable, there will inevitably be some graphic glitches, and you shouldn't expect every OpenGL program to run perfectly. It also has some side effects, notably in terms of making small changes to the way normal windows and menus are displayed. For this reason, we'd advise only enabling the driver if you know that it is going to be useful

for some specific program you are using; if you're not sure whether or not you should be using it, you probably shouldn't be!

Also note, this experimental driver may break Raspberry Pi Camera and video playback support, and perhaps other GPU functionality.

How do I get it?

A full image and a NOOBS installer are available from the Downloads page on this website.

If you are running the current Jessie image, it can be updated to the new version by running

```
sudo apt-get update
sudo apt-get dist-upgrade
sudo apt-get install raspi-gpio
```

To add the experimental GL driver, you will also need to run

```
sudo apt-get install xcompmgr libgl1-mesa-dri
```

We strongly advise that if you are going to try out the experimental GL driver, that you backup your SD card first.

As ever, your feedback on the new release is very welcome – feel free to comment here or in the forums.

ux ui raspbian open gl desktop

201 COMMENTS

Glenn says: 9th Feb 2016 at 10:53 am

So does Quake III run with more FPS with this experimental driver turned on?

Reply

Eric Anholt says: 9th Feb 2016 at 6:39 pm

I think Raspbian is still shipping an openarena linking against the closed driver. I've done a bunch of testing with stock openarena, but it's slower than the custom ES build because we keep having to translate their 4-byte index buffers to 2-byte.

Reply

Christopher Stanton says: 18th Feb 2016 at 1:51 pm

But what about ioquake?

Reply

darren says: 9th Feb 2016 at 11:08 am

You guys rock. Been waiting for the Pi2 to have OpenGL for quite some time – thanks for your great efforts.

Reply

Mahjongg says: 9th Feb 2016 at 11:14 am

wow OpenGL!
Had hoped for a video of one of the games.

Reply

Darren Townsend says: 9th Feb 2016 at 11:16 am

With Scratch now having support for the CamJam Edukit 3, does this also include the HR-04 ultrasonic sensors…PLEASE!?

Reply

tim Rowledge says: 9th Feb 2016 at 8:37 pm

Darren, sorry but no ultrasonic sensor support yet. It's actually quite tricky to do well in the scratch framework for sensors. You *can* just use a couple of gpio pins, a timer black and maths etc but it has dreadful resolution. I'm trying to work out a clean way to handle it.

Reply

SJM says: 9th Feb 2016 at 11:20 am

Small request for a future tweak. Any chance you could make the mouse double click speed in the desktop environment configurable? My kids find it quite difficult to do it quick enough at the moment and I can't find a way to change the speed.

Reply

giorgi shengelaia says: 9th Feb 2016 at 3:01 pm

there is a hidden file named ".gtkrc-2.0" in your home directory. So if it does not exist, create it. If it does exit, read it before you proceed — it may advise you to use ".gtkrc-2.0.mine" instead.
Type these commands in Terminal:

sudo nano ~/.gtkrc-2.0

Add the following line:

gtk-double-click-time=1000

Press Ctrl – X, y and enter to save and quit the editor.
restart your Raspberry Pi for it to take effect.

Reply

giorgi shengelaia says: 9th Feb 2016 at 3:04 pm

was it helpful?

Reply

SJM says: 10th Feb 2016 at 9:24 am

Sounds good – I will give it a try. Thanks.

Reply

Glenn says: 9th Feb 2016 at 11:29 am

One more game related question:
Now that the experimental driver is out, is it now more likely the be able to run OpenRa

on a Pi2?
http://www.openra.net

In the past I hear that OpenRa on Pi was not possible because OpenRa only use OpenGL.

Reply

dom says: 9th Feb 2016 at 11:47 am

Yes, more likely to work. May work without any changes. Someone will have to try it, but it is certainly possible.

Reply

snowballEarth says: 10th Feb 2016 at 3:24 pm

openra works! •••sort of.
there's no sound and it's too slow, so not that playable.
easy to install from openra.net.
still impressed though.

Reply

NF3RN0 says: 15th Feb 2016 at 11:22 pm

Did you use a precompiled binary? Or did you compile from source?

Reply

crumble says: 9th Feb 2016 at 11:31 am

When have you deployed it? Since the weekend a dist-upgrade will break my Pi2. Libc6

has not all required dependencies and I am not able to do apt-get upgrade or dist-upgrade any longer, because the config files are not containing proper dependencies.

I moved just before this to a larger SD-Card because the 8GB was to small to compile opencv. So hardware accelatered OpenGL support sounds great for OpenCV. Please add OpenCV 3.1 as a package to jessie. I don't want to learn how hard installing is, I want to learn how to use it for face and object recognition ;-)

Reply

Serge Schneider says: 9th Feb 2016 at 11:42 am

I have tested upgrading from the old image without any problems, but of course there may always be problems which don't come up in testing. Which dependencies aren't met?

Reply

crumble says: 9th Feb 2016 at 6:29 pm

Sorry for the German error messages. If translate.google fails for you, I try to configure the whole system to english. Setting only LANG ends up in german messages:

E: Debconf-Version konnte nicht ermittelt werden. Ist debconf installiert?
debconf: apt-extracttemplates schlug fehl: Datei oder Verzeichnis nicht gefunden
Extrahiere Vorlagen aus Paketen: 21%E: Debconf-Version konnte nicht ermittelt werden. Ist debconf installiert?
debconf: apt-extracttemplates schlug fehl: Datei oder Verzeichnis nicht gefunden
Extrahiere Vorlagen aus Paketen: 42%E: Debconf-Version konnte nicht ermittelt werden. Ist debconf installiert?
debconf: apt-extracttemplates schlug fehl: Datei oder Verzeichnis nicht gefunden
Extrahiere Vorlagen aus Paketen: 64%E: Debconf-Version konnte nicht ermittelt werden. Ist debconf installiert?
debconf: apt-extracttemplates schlug fehl: Datei oder Verzeichnis nicht gefunden

Extrahiere Vorlagen aus Paketen: 85%E: Debconf-Version konnte nicht ermittelt werden.
Ist debconf installiert?
debconf: apt-extracttemplates schlug fehl: Datei oder Verzeichnis nicht gefunden
Extrahiere Vorlagen aus Paketen: 100%
Vormals nicht ausgewähltes Paket gcc-4.9-base:armhf wird gewählt.
(Lese Datenbank ••• 71 Dateien und Verzeichnisse sind derzeit installiert.)
Vorbereitung zum Entpacken von •••/gcc-4.9-base_4.9.2-10_armhf.deb •••
Entpacken von gcc-4.9-base:armhf (4.9.2-10) •••
gcc-4.9-base:armhf (4.9.2-10) wird eingerichtet •••
Vormals nicht ausgewähltes Paket multiarch-support wird gewählt.
(Lese Datenbank ••• 85 Dateien und Verzeichnisse sind derzeit installiert.)
Vorbereitung zum Entpacken von •••/multiarch-support_2.19-18+deb8u2_armhf.deb •••
Entpacken von multiarch-support (2.19-18+deb8u2) •••
Vormals nicht ausgewähltes Paket libc6:armhf wird gewählt.
Vorbereitung zum Entpacken von •••/libc6_2.19-18+deb8u2_armhf.deb •••
Entpacken von libc6:armhf (2.19-18+deb8u2) •••
Vormals nicht ausgewähltes Paket libgcc1:armhf wird gewählt.
dpkg: Vor-Abhängigkeitsproblem betreffend •••/libgcc1_1%3a4.9.2-10_armhf.deb,
welches libgcc1:armhf enthält:
libgcc1 hängt (vorher) von multiarch-support ab
multiarch-support ist entpackt, wurde aber nie konfiguriert.

dpkg: Fehler beim Bearbeiten des Archivs /var/cache/apt/archives/libgcc1_1%3a4.9.2-10_armhf.deb (–unpack):
Vor-Abhängigkeitsproblem – libgcc1:armhf wird nicht installiert
Fehler traten auf beim Bearbeiten von:
/var/cache/apt/archives/libgcc1_1%3a4.9.2-10_armhf.deb
E: Sub-process /usr/bin/dpkg returned an error code (1)

a second run of sudo apt-get dist-upgrade will fail with

i@raspberrypi ~ $ sudo apt-get dist-upgrade
Paketlisten werden gelesen••• Fertig
Abhängigkeitsbaum wird aufgebaut.
Statusinformationen werden eingelesen•••. Fertig
Probieren Sie »apt-get -f install«, um dies zu korrigieren.

Die folgenden Pakete haben unerfüllte Abhängigkeiten:
libc6 : Hängt ab von: libgcc1 ist aber nicht installiert
E: Unerfüllte Abhängigkeiten. Versuchen Sie, -f zu benutzen.

Reply

Peter Green says: 10th Feb 2016 at 11:03 am

Can you try

LC_ALL=C apt-get -f install

Reply

crumble says: 10th Feb 2016 at 10:05 pm

Does not work.

I have to setup a fresh installation.

sam says: 9th Feb 2016 at 11:36 am

Thats great news on the open GPU driver. Thanks.

I while ago there was a suggestion that it might be possible make a minimal opensource version of the blob that is required to boot the Pi [1]. Has there been any progress on this? It would be great if Pi could be free enough to bounce up a few levels on the FSF single board computer list [2] and be recommended by projects like freedombox [3].

[1] https://www.raspberrypi.org/blog/a-birthday-present-from-broadcom/#comment-493935
[2] https://www.fsf.org/resources/hw/single-board-computers
[3] https://wiki.debian.org/FreedomBox/Hardware

Reply

Coder Mike says: 9th Feb 2016 at 12:22 pm

Does this mean the full version of Minecraft may work ?

Reply

G S says: 9th Feb 2016 at 4:01 pm

Maybe, if they have a Linux version of Minecraft available, that is compiled for ARMv7 (which isn't likely). You might need to ask Microsoft for that (Microsoft bought Minecraft, if you didn't know).

Reply

fanoush says: 9th Feb 2016 at 7:34 pm

Minecraft is written in java. There is some java to opengl native library but it should be available for arm too.

Reply

manxboy says: 9th Feb 2016 at 10:01 pm

If you do try Minecraft, use Optifne··· Might make it somewhat playable···.

Reply

fanoush says: 10th Feb 2016 at 8:48 am

see this post for getting it work on ARM http://forum.lwjgl.org/index.php?PHPSESSID=n4r9lq9169bns1sdn2i53dad55&topic=5494.msg29156#msg29156

Reply

Tom Archer says: 9th Feb 2016 at 1:17 pm

My Pi fell over during "sudo apt-get update" last night. Now it refuses to completely load X. Guess I'll be doing a clean install tonight.

Reply

Micha says: 9th Feb 2016 at 1:27 pm

Awesome!!!

Regarding Pi 1 – will the driver be available for it, too when it is out of beta – or only for the Pi 2?

Update seems to be fine, I'll now go to play around a bit :)

Reply

Micha says: 9th Feb 2016 at 1:39 pm

Hm, I was too fast with my praise…if I trying to enable GL-driver, it says:

"xcompmgr not found – please install"
"There was an error running option AA GL Driver"

And now?

Reply

Simon Long says: 9th Feb 2016 at 1:53 pm

Err – did you read the instructions above?

You need to do
sudo apt-get install xcompmgr libgl1-mesa-dri
to add the new driver

Reply

Micha says: 9th Feb 2016 at 2:01 pm

of course, until I reached the games, not the 'how to get'- part (cause I already run the update/upgrade-part before) :D

Ok, then I think the missing libgl1-mesa-drv is now causing my blackscreen…

Reply

Micha says: 9th Feb 2016 at 1:54 pm

After I installed that xcompmgr with sudo apt-get install, I was able to turn on the driver –

with the result that I sit infront of a blackscrren now :)

Now I need help….how to get back to a visible screenoutput?

Reply

Kevin Hainsworth says: 9th Feb 2016 at 2:19 pm

Micha, I assume that you backed up you card before using this "experimental" OpenGL driver? If you did not then at least you've learned one valuable lesson today. Of course

this may not be much help in your current situation but if it reminds others to backup before trying something classed as “experimental” you might take solace from the fact that you have taken one for the team. Thanks for the reminder.
If you did back up your card then revert to it and wait for the OpenGL driver to be less experimental.

Reply

sam says: 9th Feb 2016 at 2:37 pm

If you have an SD card reader on another computer use that to mount the boot partition and edit the config.txt file. Find the line:
dtoverlay=vc4-kms-v3d
and make sure it has a # at the start,
#dtoverlay=vc4-kms-v3d
to disable it.

(Not tested this, but this looks like what raspi-config does)

Reply

pithagoros says: 9th Feb 2016 at 10:44 pm

I also hit the black screen problem (on a Raspberry Pi attached to the Raspberry Pi 7″ Touchscreen).

Just rewriting the SD from backup as I write this comment. I’ll make another attempt tomorrow.

Reply

Ian says: 9th Feb 2016 at 1:58 pm

Just downloaded Raspbian Jessie 2016-02-03 and put on new uSD card, booted the Pi 2

with it, did sudo apt-get dist-upgrade etc. All went well.

But when I go to overclocking options in raspi-config, it tells me “This Pi cannot be overclocked.”

Is that correct? On a Raspberry Pi B 2 ?

Reply

Simon Long says: 9th Feb 2016 at 3:44 pm

Apologies – I’ve just discovered that when I wrote the board detection routines in raspi-config, I neglected to take into consideration that some boards will have their warranty bits set.

I’ve pushed a change into raspi-config, but it’ll take a while to appear on apt. In the meantime, you can edit /usr/bin/raspi-config by hand – replace the three functions called is_pione, is_pitwo and is_pizero at the top of the file with the following:

```
is_pione() {
if grep -q “^Revision\s*:\s*00[0-9a-fA-F][0-9a-fA-F]$” /proc/cpuinfo; then
return 0
elif grep -q “^Revision\s*:\s*[ 123][0-9a-fA-F][0-9a-fA-F][0-9a-fA-F]0[0-36][0-9a-fA-F]$”
/proc/cpuinfo ; then
return 0
else
return 1
fi
}

is_pitwo() {
grep -q “^Revision\s*:\s*[ 123][0-9a-fA-F][0-9a-fA-F][0-9a-fA-F]04[0-9a-fA-F]$”
/proc/cpuinfo
return $?
}

is_pizero() {
```

```
grep -q "^Revision\s*:\s*[ 123][0-9a-fA-F][0-9a-fA-F][0-9a-fA-F]09[0-9a-fA-F]$"
/proc/cpuinfo
return $?
}
```

Reply

Ian says: 9th Feb 2016 at 3:49 pm

Thanks for quick reply! I'll wait for it to appear in apt, it's no biggie. Just thought I'd point it out as it didn't seem right.

And oops, I hadn't realised I'd set my warranty bit :/

Ian

Reply

PaddyB says: 9th Feb 2016 at 2:18 pm

Fantastic!! I run a Pi2 on a boat with navigation software (openCPN) which can use openGL, a massive improvement!!!
One thing, when first installed i had display problems with the screen flipping between a rainbow pattern and normal. This turned out to be a power issue, measuring the voltage at the Pi itself it was low, so cranking up the voltage a bit on the variable supply I use it's all good now, plus the FPS increased in the nav software. Thanks for this :)

Reply

Jaspreet says: 9th Feb 2016 at 2:21 pm

Combine this with that fellow who made Netflix work in Chromium browser but the video was slow cause no hardware acceleration.

Can we have hardware acceleration in Chromium with this?

Reply

Micha says: 9th Feb 2016 at 2:31 pm

Ok, back on the Pi now after editing the configfile in boot-dir on another pc⋯backup? Of course^^

However, I do not get it to work.

Before I started here I've done an update,upgrade+dist-upgrade.. Now after the blackscreen I installed the 2 missing things
sudo apt-get install xcompmgr libgl1-mesa-dri – when I reboot, I'll get a blackscreen after the coloured bootup-screen.

Do I still miss something? A special memorysplit etc.?

Reply

Hove says: 9th Feb 2016 at 2:57 pm

Any recommendations for GPU / CPU memory?

GPU at 64 (my default for non-GPU usage) and oolite planets render very badly – lots of black and white triangles rather than the nice one pictured above.

GPU at 256 and RPi 2 HDMI stopped working although RPi seemed to have booted otherwise.

Thanks

Reply

Micha says: 9th Feb 2016 at 3:19 pm

Did you activated the driver (and read the whole text)? :P

Reply

Hove says: 9th Feb 2016 at 4:21 pm

Yes ;-)

Reply

Simon Long says: 9th Feb 2016 at 3:47 pm

The GPU shouldn't need much memory, but the CPU does need a large chunk while running the new driver. From memory, allocating more than about 280 MB to the GPU will prevent the Pi from booting with the new driver running. Feel free to experiment with these, but our recommendation is to keep GPU memory lower rather than higher.

Reply

Hove says: 9th Feb 2016 at 4:24 pm

Thanks Simon, I'll have a play with intermediate values; FYI cogs and neverball rendered well – just oolite with the strange planets

Reply

Micha says: 9th Feb 2016 at 3:09 pm

Minutes ago there seemed a change somewhere – after I tried update, upgrade+dist-upgrade again, there happened something at upgrade…but still without change – blackscreen after reboot.

disable_overscan=1

hdmi_group=1
hdmi_mode=19
gpu_mem=256
dtparam=audio=on
#dtoverlay=vc4-kms-v3d

are the only active things in my config.txt (except oc)…any ideas maybe? Possibly the wrong hdmi-mode?

Reply

Simon Long says: 9th Feb 2016 at 3:42 pm

There are three changes which raspi-config makes when the driver is enabled.

1. The vc4-kms-v3d overlay is added in config.txt
2. The composition manager xcompmgr is started at desktop start
3. The fbturbo video driver is disabled by deleting /usr/share/X11/xorg.conf.d/99-fbturbo.conf

All three changes need to be made to enable the driver; all three need to be undone to disable it – this is why it is a raspi-config option rather than something which we are encouraging people to do manually. If you are having to recover a trashed system, make sure you undo all three – look at the function set_gldriver in raspi-config for details.

Reply

Micha says: 9th Feb 2016 at 4:02 pm

1. ok
2. dont know as I see nothing – but as I have installed it, I assume it works
3. I now have a look at this manually

Recovering my blackscreen was easy with a second pc…but it does not change the fact that I am still not able to get it to work…I only g2t a blackscreen when activating the

relating text in config.txt and reboot, whatever I do.

I see no power-symbol, but to clearify out thats not the fault I pulled out everything from usb, without change. I wll now have a look at that fb-stuff relating to point 3 manually…..

Reply

stubright says: 9th Feb 2016 at 4:31 pm

I'm not sure if this is your problem but mine was working fine, then I changed the memory split from 128MB to 256MB and the Pi booted to a blank screen. I changed it back to 128MB and it booted to the desktop without a problem.

Stu

Reply

Micha says: 9th Feb 2016 at 4:36 pm

I'll try that, what I already know is that it does not work with 160 and 256.
Point 3 what Simon mentioned is also not the propblem as the file is not there.

Now I test it with 128mb-split…..

Micha says: 9th Feb 2016 at 4:41 pm

Does not work, blackscreen with 128, too…

I cannot find the problem by myself and do it as Andy – it does not work here, and I leave it as broken for now until it is fixed and works better.

Simon Long says: 9th Feb 2016 at 5:25 pm

Yes, as I mentioned in a comment above, the new driver requires a large chunk of CPU memory. I think in my testing the breaking point was that allocating around 280MB of GPU memory would result in failure to boot. (The driver allocates a 256MB buffer of system memory for its own use; if there isn't enough memory left available after the GPU allocation has been made, the driver is unable to allocate enough memory for its own use and dies.)

Micha says: 9th Feb 2016 at 6:12 pm

But I sill got a blackscreen with even 128…so I do not think that the memsplit is the reason here.

Micha says: 9th Feb 2016 at 9:39 pm

Solved, BoB LeSuer found the solution a few postings after this…it is necessary to boot directly to GUI.
It has the wrong screensize/resolution and is unusable here cause the bar and some icons are missing, but I see my background at all.

Milliways says: 10th Feb 2016 at 7:22 am

I would hope that you can make it at least compatible across Pi models. I currently maintain a common rsync backup across my B+ and Pi2. It appears this will break if enable vc4-kms-v3d overlay.

It would be good if Device Tree could handle the differences (as it does for most other changes).

If I enable then later disable in raspi-config will this revert all changes? I am worried by "The fbturbo video driver is disabled by deleting …"

Reply

Simon Long says: 10th Feb 2016 at 10:10 am

Yes, all changes are undone by raspi-config, including the re-enabling of the fbturbo driver – a backup of the relevant file is restored.

Reply

Romain says: 9th Feb 2016 at 3:24 pm

Great stuff!!
Been waiting for it! Thanks for the OpenGL hardware acceleration and wiringPI update!
Now I know what I'm gonna do this evening ;-)

Reply

Redgeneral says: 9th Feb 2016 at 3:25 pm

Very impressive work on the driver.

Are there any plans at the moment to work towards getting it on all pi variants (including the Pi Zero)?

If it is impossible to reduce the memory requirements, then saying now will stop people hoping for the impossible.

My concern is that with the driver on only the Pi2, then it will effectively split the available pi software in two – one set for all pi varients and one for only pi2.

Reply

Dany says: 11th Feb 2016 at 8:07 am

I think the open source driver should eventually become equivalent to the proprietary one in terms of speed and efficiency. It might take another two years though. The closed source driver doesn't do much but when it can be used it's probably faster.

Reply

Andy says: 9th Feb 2016 at 3:35 pm

I get the black screen issue too, so I have to comment out the change to config.txt with #dtoverlay=vc4-kms-v3d

Furthermore Emulationstation doesn't work correctly anymore, it just boots to a black screen.

File this under "broken", not "experimental" at the moment!

Back to the backup!

Reply

James Hughes says: 9th Feb 2016 at 7:01 pm

I filed it as experimental – works OK on a new SD card.

Reply

Mark Fletcher says: 9th Feb 2016 at 3:38 pm

Hi there,

I did a sudo apt-get update && sudo apt-get dist-upgrade without any issues. Installed the other items, went into raspi-config and enabled the driver, rebooted.

I do see periodically a black screen when its trying to render some 3d, like oolite. Basically the screen will go dark and the little rainbow square will appear in the top right

hand corner. Its as if the Raspi isnt getting enough power when running 3d apps?

Ive tried this with a PSU purchased from Adafruit and also when connected to a Motorola Atrix Lapdock, and I get the same issue.

Just wondering if anyone else is seeing the same symptoms…

Thanks,

Mark

Reply

Simon Long says: 9th Feb 2016 at 3:50 pm

The new driver is more power-hungry than the standard software renderer, and I have seen similar issues in testing. I have a third-party USB cable with an inline switch between my Pi and the PSU, and I was seeing similar effects to those you describe with that in the circuit and with an external USB audio device plugged in. Make sure you disconnect any unused USB power sinks, ensure you are using a good-quality USB PSU, and get rid of any inline switches (like the one I was using…)

Reply

Mark Fletcher says: 9th Feb 2016 at 3:57 pm

Thanks Simon! Will try without an inline switch and report back. I did try oolite earlier on and its looks great running on the desktop.

Thanks for your hard work and I look forward to further enhancements in future!

Reply

Mark Fletcher says: 10th Feb 2016 at 12:20 am

Yeah I switched to another USB psu that I had lying around and Im no longer getting black screens or the rainbow square appearing at the top RHS. Now to source a usb power cable without an inline switch.

Thanks again!

Reply

Archisman Panigrahi says: 9th Feb 2016 at 4:17 pm

So will Stellarium work smoothly after the hardware accelerated OpenGL support?

Reply

Simon Long says: 9th Feb 2016 at 5:10 pm

We really can't give answers for how specific applications will work with the new driver – there are thousands out there, and we can't test them all! Please try it yourself and report back•••

Reply

Winkleink says: 9th Feb 2016 at 9:42 pm

Tried Stellarium.
Star maps are great. Text for me is corrupted.
Tried changing language and the corruptions changed, so it's having an effect

Celestia which is also in the repository functions better.

Reply

Maic says: 9th Feb 2016 at 4:46 pm

First: Very nice news. Really hoped for this and even visited http://anholt.livejournal.com/ yesterday.

Anyway. I don't see the option to enable GL in raspi-config. Even after "update this tool to the newest version" nothing show up. I did apt-get update, followed bei upgrade and installed the mesa stuff beforehand but still nothing.

Reply

Micha says: 9th Feb 2016 at 6:15 pm

Possibly missed "sudo dist-upgrade" after update+upgrade?

Reply

Winkleink says: 9th Feb 2016 at 5:05 pm

Did a quick test and here's a video of glxgears running without OpenGL and with OpenGL.

http://winkleink.blogspot.co.uk/2016/02/raspberry-p-i-2-opengl-experimental.html

Also for some reason the bottom of the screen is the background colour and the mouse pointer disappears when I go below this point
Link to Tweet with picture showing the background colour is filling the whole screen.
https://twitter.com/winkleink/status/697089741947277316

Link to Tweet showing standard desktop with a program running full screen.
The piece at the bottom looks like the Status Bar is filling the rest of the screen.
Also showing I hard set the resolution to match the monitor.
https://twitter.com/winkleink/status/697089741947277316

Love that OpenGL works so well. Would love to have it fill the screen.

Reply

Winkleink says: 9th Feb 2016 at 8:58 pm

For testing I moved the panel to the bottom and changed it's colour to red.
The panel moved and changed colour, but also everything from the panel to the bottom of the screen changed to red.
So, the whole screen is being controlled and updated, but it's not being made available for the mouse and applications

Tweet with a picture.

https://twitter.com/winkleink/status/697162058702442501

Reply

Kevin Moore says: 12th Feb 2016 at 1:47 pm

Hi, Yes I'm getting the same effect, except my bar at the bottom isn't as deep as yours, maybe only about a quarter as wide.
Regards, Kevin.

Reply

mobluse says: 12th Feb 2016 at 4:11 pm

I have exactly the same problem. I tried hard coding my resolution to 1280×1024@60Hz, but the same result. I made a Print Screen and that had the resolution 1152×864, see https://twitter.com/mobluse/status/698175223783415808

Reply

mobluse says: 12th Feb 2016 at 5:01 pm

By hard-coding the resolution to 1152×864@75Hz I can get OpenGL to fill a

1280×1024@60Hz screen, but then the screen warns about 85Hz overdrive from time to time.

Reply

Winkleink says: 9th Feb 2016 at 5:11 pm

Did a short video of glxgears
http://winkleink.blogspot.co.uk/2016/02/raspberry-p-i-2-opengl-experimental.html

Also have a strange problem where the bottom of the screen is filled with the background colour, but programs will not go there when maximised.

Tweet with pictures showing the problem.
https://twitter.com/winkleink/status/697074510361661440

Reply

Maic says: 9th Feb 2016 at 5:14 pm

Strange, my first comment did not appear at all.

Okay next try: I followed all the steps above but I don't get the enable GL-Driver option in raspi-config. What could cause this? Really would like to try out the driver.

Reply

Micha says: 9th Feb 2016 at 6:19 pm

sudo apt-get dist-upgrade?

Reply

Maic says: 9th Feb 2016 at 6:48 pm

I did update, upgrade, dist-upgrade + rpi-update and selected update to newest version of this tool in raspi-config before commenting here. The option was still not available ••• and yes ist it a raspi2, memory-split is set to 256 but I tried with 128 as well.

uname -a says:
Linux hostname 4.1.17-v7+ #838 SMP Tue Feb 9 13:15:09 GMT 2016 armv7l GNU/Linux

Reply

Canol says: 9th Feb 2016 at 5:33 pm

Can we install OpenGL driver to the old Raspbian Wheezy? If yes, does it require any extra steps?

Reply

Micha says: 9th Feb 2016 at 6:20 pm

Not an answer – but why do you still want to use Wheezy, is there any good reason?

Reply

Canol says: 9th Feb 2016 at 7:55 pm

All our devices (including remote ones) are loaded with Wheezy. We don't want to do distribution upgrade since we don't want to risk bricking our devices but we do small maintenance updates or some software installations. So if we can install the driver without doing the big distribution update, we would prefer to do that.

Reply

AndrewS says: 10th Feb 2016 at 9:38 am

"we don't want to risk bricking our devices…"

In that case you shouldn't try installing a driver that is clearly marked as experimental?!

Reply

Simon Long says: 10th Feb 2016 at 10:08 am

If you are too risk-averse to install Jessie, you really shouldn't touch the new driver!

Reply

Canol says: 12th Feb 2016 at 7:36 am

How hard is it to get an answer to a simple question? Just tell me if it can be installed to Wheezy and that's it, that was my question. If you don't know then don't fill here with unrelated comments. I didn't ask your "valuable" opinion on how to handle the update process of our devices. Do you know our product? Do you know our testing process? Do you know about our company strategy? Maybe OpenGL is so key and will provide so much benefit that we will take the risk of bricking our devices? Maybe out of tens of test installations OpenGL driver will not brick any Raspbian Wheezy devices so we will take that small risk?

Again I ask "just out of curiosity" is this new OpenGL driver installable to Raspbian Wheezy or do we need to upgrade to Raspbian Jessie?

J.C. Oliveira says: 9th Feb 2016 at 9:05 pm

Here is a few steps to migrate from whezzy to jessie:

https://linuxconfig.org/raspbian-gnu-linux-upgrade-from-wheezy-to-raspbian-jessie-8

Reply

heater says: 9th Feb 2016 at 5:44 pm

This so awesome. Seeing glxgears running on the Pi at 50 odd frames per second and using only a few percent CPU takes me back to the day I first got accelerated OpenGl running on Linux. Using a shiny new 3DFX Voodoo graphics card back in 1999.

Well done.

Now where is that browser that supports webgl ?

Reply

Micha says: 9th Feb 2016 at 6:24 pm

As far as I know, Iceweasel support WebGL…(after you activate it in about:config) …

Reply

Maic says: 9th Feb 2016 at 6:04 pm

@heater chromium should support webgl

Reply

Patrick Gutlich says: 9th Feb 2016 at 6:28 pm

Sweet,

now maybe we can get OpenFL (yes the F is no typo) and other haxe-libraries to run on X11 in a window in the near future, and make the Pi2 a supported target!

Reply

felbar says: 9th Feb 2016 at 6:30 pm

So after this
sudo apt-get update
sudo apt-get dist-upgrade
sudo apt-get install raspi-gpio

I get ‘raspi-gpio is already at newest version’

and same for libgl1-mesa-dri

and glxgears is still software ,
clearly is not downloading,
my mirror not updated perhaps ?

Reply

felbar says: 9th Feb 2016 at 6:57 pm

ahh I see needed to run raspi-config my
apologies, also finally can run Blender!

Reply

Winkleink says: 9th Feb 2016 at 6:36 pm

Needed to do a sudo apt-get update before neverball would install.

Got the following error.

pi@raspberrypi:~ $ sudo apt-get install neverball
Reading package lists… Done
Building dependency tree
Reading state information… Done
Some packages could not be installed. This may mean that you have

requested an impossible situation or if you are using the unstable
distribution that some required packages have not yet been created
or been moved out of Incoming.
The following information may help to resolve the situation:

The following packages have unmet dependencies:
neverball : Depends: libsdl2-2.0-0 (>= 2.0.0) but it is not going to be installed
Depends: libsdl2-ttf-2.0-0 (>= 2.0.0) but it is not going to be installed
E: Unable to correct problems, you have held broken packages.

Reply

Axel Richter says: 9th Feb 2016 at 6:52 pm

Really great,yes its a new born for pi.Very nice to see gl on my pi. Wow thanks its work. I so happy with my new old pi ;)

Reply

Axel Richter says: 9th Feb 2016 at 7:20 pm

openarena is running wow thats a great.

Reply

BoB LeSuer says: 9th Feb 2016 at 7:39 pm

For what it's worth, if my RPi is set to boot to console, then I get a black screen (following the full-screen rainbow splash). If I have set to boot to the GUI, then the driver seems to behave properly.

Reply

Micha says: 9th Feb 2016 at 9:32 pm

AHH, thats the solution…the reason why I got a blackscreen all the time when activated GL!
Checked it, if I turn the Pi to boot directly to Lxde, I got a visible screen. The screen still is total garbage, half is missing and the resolution was totally wrong…but I could see something. Still needs lots of work, but in general nice to see that the driver is functional at all!

However, whats also impressing me much in this update is that there is a new Mathematica-version…really good

Reply

Axel Richter says: 9th Feb 2016 at 7:56 pm

blender works so too. jau

Reply

Winkleink says: 9th Feb 2016 at 8:38 pm

I installed an ran Blender. No idea how to use it but it functioned.

Reply

Neil Kendall says: 9th Feb 2016 at 8:39 pm

Thanks for the update!

I have noticed that Omxplayer no longer works with OpenGL turned on. Is this expected?

I've also noticed other software seems to be running much more slowly e.g. I use Geany with several tabs open to edit source code. When switching tabs you can visibly see it

drawing the text down the screen but if I turn OpenGL off it is back to full speed again. I realise this is experimental and maybe I am expecting too much at this early time?

Reply

6by9 says: 9th Feb 2016 at 10:04 pm

This is all based on Eric Anholt's driver. From his blog (http://anholt.livejournal.com/45752.html)
"They want to make sure we don't regress functionality, obviously, and there are some big chunks of work left to do: HDMI audio support, video overlays, and integration of the vc4 driver with the camera and video decode support come time mind"

Reply

pd says: 10th Feb 2016 at 2:33 pm

OMXPlayer acceleration on a Pi 2 in Kodi, for me, has always been easily broken. Simply play a video in the background (Background music visualization/video player on Home screen) and start scrolling one of your media libraries. Soon you'll see the posters or banners start to vanish and the scrolling gets choppy or just plain freezes. ReloadSkin() brings things back to life but it's a sorry state if you need OMXPlayer to run streaming media off the web where audio is sometimes corrupted into silence as well, depending on the source.

So hearing that OMXPlayer doesn't like this new driver isn't all that surprising.

Reply

GhostRaider says: 9th Feb 2016 at 8:44 pm

This brings a whole new chapter for the Raspberry Pi 2! Now the GPU is ready to wake up from its hibernation. Can't wait what the future holds!

Reply

Celso says: 9th Feb 2016 at 9:43 pm

Ok, Im quite dumb about 3D so, this means games/apps written with opengl need can now be compiled to the Pi?
For example pyopengl and such libs can now support a game like Frets On Fire? (it's for opengl)
and the openglES? what's de difference in this case now?

Bottom line is: Can I compile/run games natively made to opengl (not openglES) hardware?

Reply

dom says: 9th Feb 2016 at 11:57 pm

Yes

Reply

Jim Manley says: 10th Feb 2016 at 12:46 am

@Celso – OpenGL is the full version of the standard meant to operate on workstations and other systems primarily designed to generate the highest-performance 3D graphics. OpenGLES is somewhat of a subset with some reductions in functionality, missing features, as well as how the APIs are called. It's meant for mobile devices with a system-on-a-chip (SoC) that doesn't have nearly as much GPU horsepower as workstations and 3D graphics rendering engines/farms have. The VideoCore IV GPU in the Pii is one of the most powerful in 32-bit SoCs, so it's very exciting to see that they've managed to get OpenGL running on it, especially integrated with the desktop (well, to a degree, as it's a bit buggy on the lower part of the desktop, apparently).

OpenGLES applications should still run as different libraries are referenced and linked with during builds. The demos in /opt/vc/src/hello_pi are built using OpenGLES and still build and run as before. For those not familiar, type "./rebuild.sh" without the quote marks from that directory. Then, for example, cd into hello_triangle and type "./hello_triangle.bin" (without quotes), and marvel at a rotating cube with images mapped onto the six sides.

Reply

Jan Newmarch says: 10th Feb 2016 at 6:50 am

Which version of OpenGL? Does it mean that we can look forward to Vulkan when it gets released? (Wikipedia on Vulkan: "Initial specifications state that Vulkan will work on hardware that currently supports OpenGL ES 3.1 or OpenGL 4.X and up")

Reply

mobluse says: 14th Feb 2016 at 4:38 pm

I compiled these programs when OpenGL was activated, but they don't work with OpenGL on. I have been able to run them before.
https://www.raspberrypi.org/learning/demo-programs/

Reply

Mike Redrobe says: 9th Feb 2016 at 10:08 pm

It's great to see accelerated OpenGL – but it would be better to mention enabling it completely KILLS ALL CAMERA SUPPORT, as well as accelerated video via omxplayer…. I realise its an early release, but the blog above ONLY mentions "minor graphics glitches" – not core features stopping working !!

Grumbling aside – I'm happy to use the OpenGl support on a different SD card as

needed, now I know the llimitations. No doubt future updates will improve.

Reply

The One says: 10th Feb 2016 at 12:49 am

It's EXPERIMENTAL. Of course there will be bound to be bugs and compatibility. That is why it is disabled by default and requires people to manually enable it. The point being for advanced users to hopefully test it out with this announcement and *kindly* report issues, since there are thousands of software and possible configurations out there – too many to test completely by a small group of developers giving you free software. Anyone who requires to maintain a stable working system should NOT be enabling this. Otherwise let the rest of us help out on putting this great new feature through its paces with constructive comments, so as to root out bugs and make the most awesome low-cost single board 3D renderer. *[Mod edited for grumpiness.]*

Reply

Mike Redrobe says: 10th Feb 2016 at 10:17 am

The page above has been edited now, so loss of camera is mentioned. Thanks JamesH !

Reply

Neil Kendall says: 9th Feb 2016 at 10:21 pm

I use the Atari Stella emulator and it worked brilliantly in Wheezy. When Jessie was released it was broken and could only be started in 'software mode' which was unuseable. This new driver has enabled me to use it again at full speed BUT only in a small window – when set to full screen it slows down terribly. I have looked at the settings and enabled OpenGL mode but it still won't work properly full screen. I wonder why all was perfect in Wheezy ••• ?

Reply

Jim Manley says: 9th Feb 2016 at 10:50 pm

When I first read that there was a new OpenGL driver I thought, big deal, the GPU has been running OpenGLES since Day One, who cares? Then I was reading through the comments and realized that they hadn't accidentally left off the "ES" ••• it was full OpenGL support ••• on the desktop, at that! O ••• M ••• G ••• L ••• !!! I'm stuck on a 100 Kbps Internet link for the moment, so it took a few hours to get the new distro downloaded, but now I'm ready to jump into 3D hyperspace!!!

This is enough of an advance for me to resume development of my long-planned STEM educational game, Pi-finity! Not being able to run it integrated with the desktop was highly unsatisfactory, but now that hurdle is mostly crossed and there are lots of other parts beyond the 3D graphics that need to be completed anyway, the most important being the P2P data sharing that obviates central servers being needed to maintain coordinated state across systems on the network.

I have Spring break coming up in a month and the Summer when school will be out, although I will be running computing Summer camps, Jams, and possibly Jamborees across the U.S., so I will be plenty busy, as usual. If I've made enough progress by then though, I'll be able to publish a draft API and enough code for the basic functionality to run and then perhaps contributions by others can help accelerate development of the full system.

Thank you to the whole raft of people who made this possible, as well as all of the other upgrades that I'll be checking out over the coming weeks. The future's now so bright, we've _all_ gotta wear shades ••• 3D shutter-equipped shades, at that! :D

Reply

mung says: 9th Feb 2016 at 11:05 pm

Setting screen resolution in /boot/config.txt does not seem to have any effect?

Reply

John Jones says: 10th Feb 2016 at 1:49 am

So is it significantly hardware accelerated to use Android ?

what needs to be done to get an open source android to boot ?

Reply

dom says: 10th Feb 2016 at 2:14 pm

Read here: https://groups.google.com/forum/#!forum/android-rpi
There are some youtube videos of Android on Pi (using Eric's 3D driver). Early days, but it's looking interesting.

Reply

julienrat says: 10th Feb 2016 at 7:46 am

EXCELLENT ! I confirm, Minetest work like a charm ! i had to desactivate colored square (avoid_warnings = 1 in config.txt)

Reply

mimby says: 11th Feb 2016 at 6:51 pm

Could I just ask how do you go about installing it and getting it to work? I would like to try this on my Raspberry Pi as well.
Thanks.

Reply

Silviu says: 10th Feb 2016 at 8:15 am

The best opengl game I know is Warzone2100 – will try it soon with the experimental opengl driver and report back here :)

Reply

James Hughes says: 10th Feb 2016 at 12:16 pm

Appears to work very well indeed!

Reply

Silviu says: 10th Feb 2016 at 7:22 pm

Yes, perfect. I have one comment••• sound over HDMI does not work with the experimental opengl driver and I need that because sound has more quality like that (I can “feel” it in my ears) – I have a HDMI to VGA with 3.5 audio adaptor and my config.txt is:

```
hdmi_group=2
hdmi_mode=35
hdmi_drive=2
hdmi_force_edid_audio=1
hdmi_force_hotplug=1
#gpu_mem=128
framebuffer_depth=24
start_file=start_x.elf
fixup_file=fixup_x.dat
avoid_warnings=2
max_usb_current=1
smsc95xx.turbo_mode=N
# Overclock – Cpu frequency fixed (no sleep), increased ram speed
```

arm_freq=900
over_voltage=0
core_freq=450
sdram_freq=450
force_turbo=1
avoid_pwm_pll=1
dtparam=audio=on
dtoverlay=vc4-kms-v3d

Reply

gilles bellavance says: 10th Feb 2016 at 8:54 am

I did an upgrade on a running Jessie and activated GLX in raspi-config. At first I was getting the flipping screen with the color square, after changing the PSU it was ok. It will run e17 great but I have an overscan problem which will not be affected by changes of overscan setup in config.txt. The overscan problem appears even after booting in text mode.
All in All it looks very promissing!

Reply

Patrick Gutlich says: 10th Feb 2016 at 10:17 am

Only getting the rainbow splash on my pi2 with the pi touchscreen, even when booting to GUI is enabled.

Reply

Ian says: 10th Feb 2016 at 11:42 am

I've got a similar problem with a Pi2. On a fresh install, it boots fine and the driver works nicely – I watched the gears spin at 60 fps and played neverball. Great fun!

I then thought I'd update an existing Jessie SD card for the same pi, which worked fine right up until I enabled the hardware acceleration in raspi-config. When I rebooted, I just got the rainbow splash screen and nothing else. Multiple reboots did the same thing.

editing config.txt and commenting out this line, thus :
#dtoverlay=vc4-kms-v3d

allowed the pi to boot off the card once more. (I then went back to raspi-config and properly disabled the hardware acceleration). All is ok once more, though without hardware acceleration on that card.

So, on a fresh image, the new driver works fine. On an existing image that I updated, running on the same Pi2, it freezes on the splash screen.

Need to have more of a look around to see what's different.

Ian

Reply

Coder Mike says: 10th Feb 2016 at 7:45 pm

I get the same with Pi2 and touchscreen, flashed jessie to card, boots ok, set GPU memory to 128, reboot ok, turn on GL driver, reboot – rainbow screen.

Reply

crumble says: 11th Feb 2016 at 11:02 am

For me as well.
But I have seen it running once over RDP.

I turned on camera, SPI and I2c support in raspi-config and overclocked to 1000MHz. Memory split unchanged from latest Raspbian image. Maybe I forgot one of these settings when the driver was running without problems. At the moment the Display is connected to the Pi2 but not to a power supply.

I added the power supply only when the Pi failed to boot.

Reply

Fred says: 10th Feb 2016 at 10:46 am

neverball + senseHat accelerometer …

Reply

AndrewS says: 10th Feb 2016 at 11:48 am

Here's a good starting point…
https://www.raspberrypi.org/learning/sense-hat-marble-maze/

Reply

spock says: 10th Feb 2016 at 11:56 am

can anyone try to compile blender? :)

Reply

Winkleink says: 10th Feb 2016 at 12:47 pm

No need to compile it's in the repository

sudo apt-get install blender

Runs great. Haven't tested the render time.

Reply

Graham says: 10th Feb 2016 at 12:23 pm

Seems to work nicely on my pi2 with just one exception. After enabling the openGL driver and rebooting I seem to get 1 (or maybe 2) columns of magenta pixels at the very left side of my screen – this occurs both in the console and in the X Window System. Disable the openGL driver and reboot and the purple columns disappear again.

Reply

Gustav Muller says: 10th Feb 2016 at 12:42 pm

Is the new driver Eric Anholt's open source driver? I wonder if it will be used for everything even when there's no OpenGL, including the high res framebuffer. A few days ago I tried a custom build (http://sukzessiv.net/~gohai/vc4-buildbot/build/), but now the site has no builds anymore and says in a few words something that could be interpreted as if the current Raspbian (if the new driver is enabled) works completely without the closed source driver.

Reply

Mikko Rauhala says: 10th Feb 2016 at 1:42 pm

Now then, who's the first to try and see if the Pi is finally up to being a Stepmania machine? (Don't have a 2 handy myself.)

Reply

WallyWare says: 10th Feb 2016 at 2:39 pm

Is the SPI clock rate independent of the CORE_FREQ in this build? For more details on this issue see: http://pi-plates.com/the-problem-with-overclocking-and-the-spi-bus/

Reply

Mr.Schnabel says: 10th Feb 2016 at 5:04 pm

Are there any differences between the build from http://sukzessiv.net/~gohai/vc4-buildbot/build/ and the current raspian jessy build?

And:
Will there be chromium-browser available in the repos again? ;)

Thanks for the great work!

Reply

FotL says: 11th Feb 2016 at 9:03 pm

Chromium Browser for ARM is not in the Debian Repositories. Also it is difficult to backport Chromium to the RP1 ARMv6 Architecture, as it was only supported up to version 28..

Reply

mechanizeddeath says: 10th Feb 2016 at 5:50 pm

Great work!

With just a little effort, I was able to get OpenMW running on the Raspberry Pi last night using the experimental driver. I only got maybe 10-15 FPS, but considering the developmental status of everything, it was still impressive and shows a lot of promise.

Reply

Krylon says: 10th Feb 2016 at 7:20 pm

After doing the upgrade, rebooting, enabling the GL driver, and rebooting again, the GUI

would not come up again. My TV complained about invalid picture format or something like that.

I was able to SSH into the Pi, disable GL, reboot again, and it's working fine again, but for now it seems the GL driver does not work for me.

Reply

BigHomer says: 10th Feb 2016 at 9:16 pm

Blackscreen troublehooting: Narrowing this down to an HDMI display config somewhere. Two different Pi 2's – same PSU, SD card etc. – only difference is the display. One works (Panasonic TV), the other gets black-screen after rainbow (cheap off-brand TV). Again, no difference in the setup except the display. Tried hdmi_boost=4, hdmi_drive=2 ; no change.

Swapped the Pi's so the one that didn't work is on the Panasonic, and vice versa. Pi that did not work on the small TV, now works on the Panasonic. Pi that worked before, show's black screen when connected to the small off-brand TV.

Reply

Fred says: 11th Feb 2016 at 9:59 am

My tests showed the same conclusion, the new driver does output an unusual HDMI format which is incompatible with some displays. Upgrading from previous Raspbian or starting with a fresh install does not matter.

Reply

Frits says: 11th Feb 2016 at 1:20 pm

Can confirm this.
Samsung tv no problem, cheap Watsvision shows black screen.

Reply

Thargie says: 11th Feb 2016 at 8:20 pm

Samsung 4K TV – black screen. :(

Reply

Anton says: 13th Feb 2016 at 2:41 pm

How about swapping your HDMI cables for a test?

Reply

Duncan says: 10th Feb 2016 at 9:39 pm

The Qt Creator Welcome plugin now loads! Except rather mashed up··· complains with

libEGL warning: Render node support not available, falling back to dri2
libEGL warning: If you want to force dri3, set EGL_FORCE_DRI3 environment variable

Reply

nathanturk2 says: 10th Feb 2016 at 10:24 pm

When I enabled the new OpenGL system I got a problem where the raspberry pi would stretch the screen (or maybe the monitor) and the monitor would give an 'out of range' error. Is this a bug? How do I fix this?

Reply

Hello,

Samuel says: 11th Feb 2016 at 10:58 am

I have that same problem with SAMSUNG TV over HDMI. Top menu isn`t visible in Xscreen.In configuration without OpenGL working fine.

Reply

Phil Olynyk says: 11th Feb 2016 at 11:53 pm

I have the same problem with a 2010 vintage(?) Samsung TV. Half the menu bar is missing and the enabling/disabling overscan makes no difference.

On a brighter note, a QT5 program which didn't display with the older Raspian, now works properly, although not with OpenGL enabled. So big improvement there.

Will have to try qtcreator Welcome and configuration again.

Reply

D Martin says: 17th Feb 2016 at 8:53 pm

Same problem with Panasonic TV. Enable/Disable overscan makes no difference and I can *just about* see enough of the screen left side and top to select (guess) the place to click. Disabling OpenGL brings things back to normal.

Reply

Coder Mike says: 11th Feb 2016 at 12:22 am

I managed to get Minecraft 1.8.9 working for about 1 minute !

https://youtu.be/RlQG9GY3RiQ

Reply

DaveAK says: 11th Feb 2016 at 5:03 am

Well I must be of a certain age, because the best thing about this news is Oolite. Time to do an upgrade!! :D

Reply

Andrew Chandler says: 11th Feb 2016 at 5:37 am

with the new native driver the pi can actually deliver 465fps on glxgears or 2335 frames in 5 seconds. Not a speed demon but still quite respectable for this little beast. To try for yourself you have to set an environment variable prior to running glxgears to disable vsync
export vblank_mode=0
glxgears

Reply

Jeff Gilmour says: 11th Feb 2016 at 8:29 am

Some Processing programs wouldn't run previously, complaining about the OpenGL. Does anyone know if these work now?

Reply

GrreenZZ says: 11th Feb 2016 at 9:23 am

OpenGL is a realy BIG news…

I've checked Colobot, and it runs realy smoothly
(Just apt-get install colobot)

It's a game, where you can program bots in a language called CBOT, which is similar to

C++ and Java.

The game was recommended by ministry of education in Poland years ago. Now it is opensource, and managed by International Colobot Community.

Reply

Mattias says: 11th Feb 2016 at 10:50 am

Minor issue, but still: ping still requires root (sudo)
I did sudo apt-get update && sudo apt-get dist-upgrade
and still a ping your.domain.com answers:
ping: icmp open socket: Operation not permitted

Reply

ednl says: 11th Feb 2016 at 7:41 pm

Same here: ping still requires sudo.

Reply

Losier Blackheath says: 11th Feb 2016 at 3:26 pm

Glad to hear that DRM driver has been included in this new release, so will there be someone working on some GPGPU stuff in this infrastructure, like a llvmpipe based OpenCL driver?

Reply

vanfanel says: 11th Feb 2016 at 3:30 pm

Is it possible to have OpenGL on a dispmanx OR kms rendering context instead of an

X11 context?

Reply

Craig Van Degrift says: 11th Feb 2016 at 9:17 pm

Great news. A major advantage of the Raspberry Pi over other small board computers is its software support. With the new OpenGL, I was able to watch Avogadro gracefully turn around oxytocin, a nine-amino acid polypeptide.

One thing. The new Raspbian did not have the ignore_LCD line in /boot/config.txt. I had to add ignore_LCD=1 to get it to display out the HDMI connector for class demos. (It had defaulted to my RasPi display.)

Reply

HUGO says: 11th Feb 2016 at 10:02 pm

Very Nice. I was plaing colobot in my raspberry. Now I like.

Reply

pie flavor says: 12th Feb 2016 at 1:01 am

When will native GPIO screen support arrive? I have a screen and installing the drivers-from wheezy era-cause X to be modified to something that causes it to always crash. Also, the screen powers but just displays pure white. I can include link if needed.

Reply

Georg Bißeling says: 12th Feb 2016 at 9:33 am

Dear Simon,

excuse my slow thinking. I believe that OSS is a good thing in itself, but what other advantages does the new driver bring to the users? I saw Quake Arena running with the closed source OpenGL drivers – so what is missing? ;-)

Or is it that the closed source driver does only support OpenGL ES vs. full OpenGL in the OSS driver? If this is the main difference then it should get more emphasis.

Thank you very much!
Georg

Reply

mobluse says: 12th Feb 2016 at 12:30 pm

After I rebooted with OpenGL the Volume Control in the panel disappeared, and when I try to add it back I get empty space instead. glxgears and Neverball works, but when I start Neverball sound doesn't work and I get "Failure to open audio device (ALSA: Couldn't open audio device: Filen eller katalogen finns inte)" (I use Swedish language). I normally use analog sound. Also, the lower part of the screen can't be used — it's the same gray as the background. I have a 4:3 screen, I think.

Reply

mobluse says: 12th Feb 2016 at 11:02 pm

I got audio to work by changing to dtparam=audio=on in /boot/config.txt, but I also had to add back the speaker icon (Volume Control (ALSA)) in the panel.

Reply

mobluse says: 12th Feb 2016 at 1:15 pm

I installed Processing 3 https://www.raspberrypi.org/learning/introduction-to-processing/requirements/software/ and then run the example Demo/Graphics/Planets,

but after that my screen image is very wiggly . It didn't help to restart the screen. I shall now try rebooting.

Reply

Edward Pike says: 12th Feb 2016 at 6:05 pm

HI

None of my hdmi settings worked in config.txt; I got the black screen.

HOWEVER, I put the video resolution as a kernel parameter and IT WORKED. Mine is as follows (note the video=..) parameter (it depends on the actual device of course).

pi@raspberrypi:/boot $ cat cmdline.txt
dwc_otg.lpm_enable=0 console=ttyAMA0,115200 console=tty1 root=/dev/mmcblk0p2 rootfstype=ext4 elevator=deadline fsck.repair=yes rootwait video=1360×768

Reply

mobluse says: 12th Feb 2016 at 11:18 pm

Thanks! Now it works for me using /boot/cmdline.txt:
dwc_otg.lpm_enable=0 console=ttyAMA0,115200 console=tty1 root=/dev/mmcblk0p2 rootfstype=ext4 elevator=deadline fsck.repair=yes rootwait video=1280×1024

Reply

CharlesN says: 22nd Mar 2016 at 6:06 pm

Yes! I had spent a couple of days recompiling the kernel, then just burned the last raspbian release without success. but the key was the video setting in /boot/cmdline.txt
pi@raspberrypi:/boot $ cat cmdline.txt
dwc_otg.lpm_enable=0 console=ttyAMA0,115200 console=tty1 root=/dev/mmcblk0p2

rootfstype=ext4 elevator=deadline fsck.repair=yes rootwait video=1360×768

Reply

Edward Pike says: 12th Feb 2016 at 6:18 pm

Just a follow up to my previous post, on my kernel parameter video=wxH the H seems to work only on H=768. I got the working combination (for my tv) by trying out values on output of /opt/vc/bin/tvservice (dump edid data, then parse, then try out the values). a cat of /proc/cmdline seems to help, there is a entry for bcm2708_fb.fbheight that is probably correct for the display device.

Reply

Jim says: 12th Feb 2016 at 7:14 pm

I still have to use sudo to ping – any ideas why?

Reply

Daniel Knight says: 12th Feb 2016 at 9:40 pm

“experimental GL driver”.
Awesome! Cant wait to give this a spin at the weekend.

Reply

XD3I says: 13th Feb 2016 at 9:04 am

Enabling Gl kills my Pi also, and I removed as much as I could from the USB port, and am also using a PSU with 2.5A.

Will be keeping and eye on this one though, I’m excited to see it come out of beta!

Reply

Paul says: 13th Feb 2016 at 6:05 pm

on my existing Jessie install using a HDMI-VGA dongle and an old monitor i've always had to use 'custom' HDMI settings in /boot/config.txt.
Enabling GL driver gave me a blank screen.

However removing my HDMI entries in config.txt, while still having the GL driver enabled allows it to work as it should. Disabling GL driver gives me no display on boot.

I'm happy with just using the GL driver

glxgears 60fps.

Paul

Reply

Tosh says: 14th Feb 2016 at 1:24 am

Is there a change to the kernel that needs to be made to use OpenGL with the Raspberry pi 7″ touchscreen display? (on the DSI port)

With a clean install to an SD card, and making the raspi-config change, the boot stops at the "rainbow" screen.

By commenting out the one line in config.txt:
dtoverlay=vc4-kms-v3d
it boots to the desktop (but without OpenGL)

http://elinux.org/R-Pi_Troubleshooting#Coloured_splash_screen
According to notation on elinux.org, a boot with the rainbow screen display means kernel.img is not loading.

Reply

D Martin says: 14th Feb 2016 at 8:57 am

If by “rainbow” you mean coloured vertical lines, yes that’s what I’m seeing on my 7″ screen too.

Reply

Tosh says: 16th Feb 2016 at 7:35 pm

Just sharing info I found. Looks like the DSI port is not supported with the driver yet. Here’s the github open issues list for the VC4 driver

https://github.com/anholt/linux/issues

https://github.com/anholt/linux/issues/8

Reply

Zeb says: 14th Feb 2016 at 3:34 pm

Fresh IMG on SD card with latest Raspbian also gives me a rainbow screen on the official 7″ touchscreen display, when open gl driver is enabled.

So I plugged in a HDMI cable and rebooted, and it works fine…

But I really want it to run on the small screen.

Any ideas??

Reply

Russell says: 15th Feb 2016 at 12:07 am

I believe that I have been following your instructions correctly about keeping my Raspbian software up-to-date, including those here about updating to Jessie. My

system is still working fine! Dumb question: How do I know if I am now running Jessie rather than an earlier version of Raspbian? How do I know what version is running in my Raspberry Pi

Reply

Richard Sierakowski says: 15th Feb 2016 at 8:13 am

Update your system to the latest with:

Firmware Update:
sudo rpi-update

OS update:
sudo apt-get update
sudo apt-get upgrade

You can then use these commands to get info about your system:

OpSys version:
uname -a
cat /proc/version
cat /etc/os-release

GPU Firmware
/opt/vc/bin/vcgencmd version

If you are not on the latest then try:
sudo apt-get dist-upgrade

With any major updatea fresh install in a clean card gives the best stability.

On my Pi I get:
pi@raspberrypi:~ $ uname -a
Linux raspberrypi 4.1.17-v7+ #841 SMP Sun Feb 14 16:56:52 GMT 2016 armv7l GNU/Linux

Richard

Reply

Russell says: 17th Feb 2016 at 4:42 am

I took your advice and did everything you suggested. What I had missed doing was the firmware upgrade – I must have missed where in the instructions that was mentioned. I now do have 4.1.17-v7+ as you said you have. However, when I did cat > /etc/os-release it still says: ••• Version =”7 (wheezy)”. Also, PRETTY_NAME = “Raspbian GNU/Linux 7 (wheezy)”. Still no mention of Jessie. So how can I tell I’m running Jessie?

Reply

Bruce says: 15th Feb 2016 at 10:13 am

Does the latest release of Jessie support USB gadget mode on the Raspberry Pi Zero or do we still need to pull the alpha drivers as per this post: http://blog.gbaman.info/?p=699

Reply

Benny says: 15th Feb 2016 at 10:41 am

Is there any way to get this nice ogl driver work with the PiTFT from Adafruit, or the Official 7inch touchscreen?

By the way this driver makes the Raspberry so much better than the Android-clones like banana or cubie.

Nice work

Reply

Alexander says: 15th Feb 2016 at 4:44 pm

Nice work

Reply

Steve Marple says: 15th Feb 2016 at 11:09 pm

I don't see the kernel headers to match latest kernel version:
uname -srvmo
Linux 4.1.17+ #838 Tue Feb 9 12:57:10 GMT 2016 armv6l GNU/Linux

The only headers I can see are for 3.x kernels:

sudo apt-cache search linux-header*
linux-headers-3.10-3-all – All header files for Linux 3.10 (meta-package)
linux-headers-3.10-3-all-armhf – All header files for Linux 3.10 (meta-package)
linux-headers-3.10-3-common – Common header files for Linux 3.10-3
linux-headers-3.10-3-rpi – Header files for Linux 3.10-3-rpi
linux-headers-3.12-1-all – All header files for Linux 3.12 (meta-package)
linux-headers-3.12-1-all-armhf – All header files for Linux 3.12 (meta-package)
linux-headers-3.12-1-common – Common header files for Linux 3.12-1
linux-headers-3.12-1-rpi – Header files for Linux 3.12-1-rpi
linux-headers-3.16.0-4-all – All header files for Linux 3.16 (meta-package)
linux-headers-3.16.0-4-all-armhf – All header files for Linux 3.16 (meta-package)
linux-headers-3.16.0-4-common – Common header files for Linux 3.16.0-4
linux-headers-3.16.0-4-rpi – Header files for Linux 3.16.0-4-rpi
linux-headers-3.18.0-trunk-all – All header files for Linux 3.18 (meta-package)
linux-headers-3.18.0-trunk-all-armhf – All header files for Linux 3.18 (meta-package)
linux-headers-3.18.0-trunk-common – Common header files for Linux 3.18.0-trunk
linux-headers-3.18.0-trunk-rpi – Header files for Linux 3.18.0-trunk-rpi
linux-headers-3.18.0-trunk-rpi2 – Header files for Linux 3.18.0-trunk-rpi2
linux-headers-3.6-trunk-all – All header files for Linux 3.6 (meta-package)
linux-headers-3.6-trunk-all-armhf – All header files for Linux 3.6 (meta-package)
linux-headers-3.6-trunk-common – Common header files for Linux 3.6-trunk
linux-headers-3.6-trunk-rpi – Header files for Linux 3.6-trunk-rpi

linux-headers-rpi – Header files for Linux rpi configuration (meta-package)
linux-headers-rpi-rpfv – This metapackage will pull in the headers for the raspbian kernel for the
linux-headers-rpi2-rpfv – This metapackage will pull in the headers for the raspbian kernel for the

Where do I get the matching header files (I want to compile the INDI driver)?

Reply

Andyj says: 15th Feb 2016 at 11:49 pm

After a completely new NOOBs and uploading the latest of the distro plus all that is required. I seem to be the only one with this interesting problem:
A totally black screen unless the mouse is moved. As soon as the mouse stops, the screen is black again. Regardless of anything else.
Any ideas what I was doing wrong?

Reply

JeGX says: 16th Feb 2016 at 9:59 pm

Here's another small OpenGL 2.1 test for the RPi 2:
http://www.geeks3d.com/20160215/raspberry-pi-opengl-2-1-support-tested-with-geexlab-0-9-6-0/
With GPU: 160 FPS, with CPU: 3 FPS!

Thanks for the OpenGL update!

Reply

MIGHTY BOMBER says: 18th Feb 2016 at 8:30 pm

Can we have VLC player running smoothly on Raspi 2 ? Can we have pppoeconf pre-

installed ? These two things are essential for raspbian to be more acceptable.

Reply

Z.Beeblebrox says: 22nd Feb 2016 at 11:37 pm

So I upgraded my Rasbian installation and once again my desktop got screwed up. People, I really like the regular updates Raspbian receives but there's a big no-go in my opinion which is messing around in one's home directory. Believe me, I've already configured the desktop the way I like. So to me the resetting to your defaults seems like forcing your desktop design on me. I know – my configuration is stored in the "oldconffiles" folder but why is it necessary to write in my home folder, guys?

Reply

Matevž Jekovec says: 28th Feb 2016 at 8:54 pm

Today I took a few hours to test the experimental Open GL driver.
1) As already reported, blender finally works, but the right click used to select objects doesn't. Surprisingly, right click with disabled experimental driver works though, but then 3d part of the scene is not rendered anyway (only the 2d HUD over the 3d scene).
2) supertux works great with 60 FPS using hardware opengl. However, supertux already worked before with 60 FPS using software renderer, but without GL effects. OTOH, running software opengl with effects had 1.5 FPS beforehand.
3) supertuxkart hard freezes on startup splash when using hardware opengl. Software emulation works, but is unplayable (<1 FPS).
4) extremetuxracer runs fine on hardware opengl for the first few seconds in 3d scene, but then runs with <1 FPS. I guess painting the belly track texture is giving RPi some trouble.

Reply

hlide says: 29th Feb 2016 at 1:25 pm

Any chance to get Vulkan instead of OpenGL on day on Raspberry PI 2/3?

Reply

Lionel Vitte says: 4th Mar 2016 at 1:23 am

Hi all,

My turn to thank you for that driver and to share trouble I had.
I tried my RPI2 with OpenGL activated on 2 different TV:
* one didn't support resolution. When OpenGL was activated, according to TV resolution changed from 1080p to something like 1150*??? (I don't remember).
* other one, OK for the resolution but Desktop was displayed only if I moved the mouse.
If I didn't, as PaddyB said "i had display problems with the screen flipping between a rainbow pattern and normal"
So, like PaddyB, I changed my PSU (actually, it's a smartphone charger) to a more powerful and it's ok.
Thanks a lot

Reply

jode says: 4th Mar 2016 at 10:42 pm

Hi all,

Today I installed processing and the latest raspian version
(from 26.02.16).

GL works only with missing pixels (hdmi_group=1, hdmi_mode=4)
at the border.

Reply

dionisis says: 5th Mar 2016 at 2:20 pm

everything installed ok, enabled but no gl acceleration.

./OpenGL21_Test ~2fps •••

rpi2, jessie, 4.1 kernel

Reply

Neil Smith says: 7th Mar 2016 at 9:13 pm

Any experience with OpenGL on Raspberry Pi 3?

I bought a shiny new RPi3 on Sunday, slapped Raspbian Jessie on it, updated the firmware, installed mesa-utils xcompmgr libgl1-mesa-dri and•••

glxgears runs at 37 fps with lots of flickering and judder. Neverball plays music by refuses to display anything and oolite is virtually unresponsive.

How can I get the OpenGL drivers running? Any ideas for troubleshooting

Reply

josh says: 9th Mar 2016 at 3:54 pm

Yep, i have same question.
Does this OpenGL (and hopefully webgl) driver works well in Rpi3 ?

Reply

Moonshine says: 14th Mar 2016 at 11:20 pm

Working fine for me on a RPi3 (multiple glxgears at 60fps). Did you enable the new driver in the advanced section of raspi-config and reboot ?

Reply

David Byres says: 19th Mar 2016 at 5:58 pm

Tried on my new RPi3, and didn't work at first. Swapped my power adapter from 2A to 5A output and works fine.

Reply

Andrew Stancliffe says: 30th Mar 2016 at 9:54 pm

updated my RPi3 running Kaffeine, resulting in two issues
1) Without GL No picture or sound
2) With GL Screen turns black, one or two frames of tv then black screen 4-5 seconds then grey login screen.

HELP ME PLEASE !!!!!!!

Reply

Chris Dale says: 5th Apr 2016 at 4:12 am

This is great! Thanks for the work you're putting into this RPF.

Reply

Chris Dale says: 5th Apr 2016 at 5:01 am

I ran into an issue after completing the steps in this article; I have a black screen on our TV after booting. The contents of the Xorg.0.log are here:

http://pastebin.com/9aqgfPY3

Any help is appreciated, and thanks again :D

Reply

Chris Dale says: 5th Apr 2016 at 5:03 am

Ah, nevermind; just found the bug thread in the forum:

https://www.raspberrypi.org/forums/viewtopic.php?f=63&t=135790&start=25

Reply

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