RPI vcgencmd usage

From eLinux.org

Verified commands

Command outputs are from firmware version 362371.

vcgencmd commands

Shows a list of possible commands.

```
root@raspberrypi:~# vcgencmd commands
commands="vcos, ap_output_control, ap_output_post_processing, vchi_test_init, vchi_test_exit,
pm_set_policy, pm_get_status, pm_show_stats, pm_start_logging, pm_stop_logging, version, commands,
set_vll_dir, led_control, set_backlight, set_logging, get_lcd_info, set_bus_arbiter_mode,
cache_flush, otp_dump, codec_enabled, measure_clock, measure_volts, measure_temp, get_config,
hdmi_ntsc_freqs, render_bar, disk_notify, inuse_notify, sus_suspend, sus_status, sus_is_enabled,
sus_stop_test_thread, egl_platform_switch, mem_validate, mem_oom, mem_reloc_stats, file,
vctest_memmap, vctest_start, vctest_stop, vctest_set, vctest_get"
```

(I've just checked on a more recent firmware version and there's now also `get_camera`, `get_mem` and `hdmi_status_show` commands)

vcgencmd measure_clock <clock>

Shows clock frequency, clock can be one of `arm`, `core`, `h264`, `isp`, `v3d`, `uart`, `pwm`, `emmc`, `pixel`, `vec`, `hdmi`, `dpi`.

```
root@raspberrypi:~# \
> for src in arm core h264 isp v3d uart pwm emmc pixel vec hdmi dpi  ; do \
>     echo -e "$src:\t$(vcgencmd measure_clock $src)"  ; \
> done
arm:    frequency(45)=700000000
core:   frequency(1)=250000000
h264:   frequency(28)=0
isp:    frequency(42)=250000000
```

```
v3d:    frequency(43)=250000000
uart:   frequency(22)=3000000
pwm:    frequency(25)=0
emmc:   frequency(47)=100000000
pixel:  frequency(29)=154000000
vec:    frequency(10)=0
hdmi:   frequency(9)=163682000
dpi:    frequency(4)=0
```

vcgencmd measure_volts <id>

Shows voltage. id can be one of core, sdram_c, sdram_i, sdram_p, and defaults to core if not specified.

```
root@raspberrypi:~# \
> for id in core sdram_c sdram_i sdram_p  ; do \
>     echo -e "$id:\t$(vcgencmd measure_volts $id)"  ; \
> done
core:   volt=1.20V
sdram_c:        volt=1.20V
sdram_i:        volt=1.20V
sdram_p:        volt=1.23V
```

vcgencmd measure_temp

Shows core temperature of BCM2835 SoC.

```
root@raspberrypi:~# vcgencmd measure_temp
temp=42.8'C
```

vcgencmd codec_enabled <codec>

Shows if the specified codec is enabled, codec can be one of H264, MPG2, WVC1, MPG4, MJPG, WMV9. Please note this was run on a Pi with the MPG2 and VC1 licences (http://www.raspberrypi.com/) enabled.

```
root@raspberrypi:~# \
> for codec in H264 MPG2 WVC1 MPG4 MJPG WMV9  ; do \
>     echo -e "$codec:\t$(vcgencmd codec_enabled $codec)"  ; \
> done
```

```
H264:   H264=enabled
MPG2:   MPG2=enabled
WVC1:   WVC1=enabled
MPG4:   MPG4=enabled
MJPG:   MJPG=enabled
WMV9:   WMV9=enabled
```

If you also follow the instructions in this Forum post (http://www.raspberrypi.org/phpBB3/viewtopic.php?p=269992#p269992) then the codec options for VP6 and VP8 (WEBM) also work, this is experimental and unsupported at present so any changes are at your own risk.

vcgencmd get_config [config|int|str] Will print the configurations you have set. Argument can ether be a specific option or int, showing all configs with number-datatype, or str showing all configurations with datatype sting (aka text).

```
root@raspberrypi:~# vcgencmd get_config int
arm_freq=1000
core_freq=500
sdram_freq=600
over_voltage=6
disable_overscan=1
force_pwm_open=1
```

vcgencmd get_mem arm/gpu

Shows how much memory is split between the CPU (arm) and GPU.

```
root@raspberrypi:~# vcgencmd get_mem arm && vcgencmd get_mem gpu
arm=448M
gpu=64M
```

vcgencmd version

Shows the firmware version

```
root@raspberrypi:~# vcgencmd version
Jan 13 2013 16:24:29
```

```
Copyright (c) 2012 Broadcom
version 362371 (release)
```

vcgencmd otp_dump

Displays the contents of the OTP (One Time Programmable) memory embedded inside the SoC.

```
root@raspberrypi:~# vcgencmd otp_dump
08:00000000
09:00000000
10:00000000
11:00000000
12:00000000
13:00000000
14:00000000
15:00000000
16:00280000
17:1020000a
18:1020000a
19:ffffffff
20:ffffffff
21:ffffffff
22:ffffffff
23:ffffffff
24:ffffffff
25:ffffffff
26:ffffffff
27:0000c2c2
28:6c14ba0d
29:93eb45f2
30:0000000e
31:00000000
32:00000000
33:00000000
34:00000000
35:00000000
36:00000000
37:00000000
38:00000000
39:00000000
40:00000000
41:00000000
42:00000000
43:00000000
44:00000000
45:00000000
46:00000000
```

```
47:00000000
48:00000000
49:00000000
50:00000000
51:00000000
52:00000000
53:00000000
54:00000000
55:00000000
56:00000000
57:00000000
58:00000000
59:00000000
60:00000000
61:00000000
62:00000000
63:00000000
64:00000000
```

Locations 28 and 30 store the Serial and Revision values that get displayed by `/proc/cpuinfo` (the Serial is also used to determine the Ethernet MAC address on Model B boards), and location 32 stores the value of the warranty bit. Purpose of values in other locations is unknown.

`vcgencmd set_backlight`

Currently unusable, might be used in the future to control the backlight of LCD displays

`vcgencmd render_bar`

Debug function created by Dom, used in OMXPlayer (https://github.com/popcornmix/omxplayer/blob/40467a70b609c893c8756951ccf7ef1f56f1d43e/omxplayer.cpp#L1387)

`vcgencmd display_power 0`

Turns off video output.

`vcgencmd display_power 1`

Turns on video output.

Parameters and function of other vcgencmd commands are not known.

Links

- This list (https://github.com/nezticle/RaspberryPi-BuildRoot/wiki/VideoCore-Tools) also lists and describes vcgencmd options

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