

# Cluster HAT / Cluster CTRL

## What does the output of 'clusterctrl status' mean?

Running "clusterctrl status" you will get output similar to the below text.

```
clusterhat:1
clusterctrl:2
maxpi:10
ctrl_bus:20:4:3 21:3:3
hat_version:1.2
hat_version_major:1
hat_version_minor:2
hat_size:4
hat_uuid:622aef87-17d6-4022-a370-781e1c3fe2b9
hat_vendor:8086 Consultancy
hat_product_id:0x0004
throttled:0x0
hat_alert:0
p1:0
p2:0
p3:0
p4:0
ctrl20:FW:1.1 ADC1:5014mV T1:18.60C
p5:0
u5:1
p6:0
u6:1
p7:0
u7:1
ctrl21:FW:1.1 ADC1:4891mV T1:23.52C
p8:0
u8:1
p9:0
u9:1
p10:0
u10:1
```

### **clusterhat:**

False if no Cluster HAT is detected.  
1 if a Cluster HAT was detected.

### **clusterctrl:**

False if no Cluster CTRL devices (Single/Triple/Stack/A+6) detected  
X number of devices detected

### **maxpi:**

A count of the number of nodes controllable.

### **ctrl\_bus:**

Space separated list of data (order:I2C device:maxpi) from each Cluster CTRL device.

From the example above

20:4:3 - Cluster CTRL device with order 20, is controllable via /dev/i2c-4 and controls 3 nodes.

21:3:3 - Cluster CTRL device with order 21, is controllable via /dev/i2c-3 and controls 3 nodes.

### **hat\_version:**

Full version number of the Cluster HAT detected (1.2, 2.3, etc).

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**hat\_version\_major:**

Major Cluster HAT version (1 for 1.x, 2 for 2.x, etc).

**hat\_version\_minor:**

Minor part of the version number (4 for 1.4, 3 for 2.3, etc).

**hat\_size:**

Number of Pi Zeros in the Cluster HAT this is by default 4, the maximum number supported. It can be overridden by editing `/etc/defaults/clusterctrl` and changing the value for `CLUSTERHAT_SIZE`. This will change the number of nodes controlled by the Cluster HAT for example if you only have 3 Pi Zero you can use `CLUSTERHAT_SIZE=3` and the `p4` name would be used for Cluster CTRL nodes.

**hat\_uuid:**

The UUID for the Cluster HAT device, unique for every product.

**hat\_vendor:**

Vendor name "8086 Consultancy".

**hat\_product\_id:**

8086 Consultancy product id for the HAT.

**throttled:**

Output of `"vcgencmd get_throttled"` shows any power/thermal issues on the controller. You can use our [get\\_throttled\\_decoder](#) to find out what this means.

**hat\_alert:**

Status of the ALERT LED (0=off, 1=on).

**pX:**

Status of node pX power (0=off, 1=on).

**uX:** [only shown on Cluster CTRL devices]

Status of usbboot for node pX (0=off, 1=on).

**ctrlX:** [only shown for Cluster CTRL devices]

Space separated fields for **FW:** firmware version and where supported **ADCx:** voltages, (inaccurate)

**Tx:** temperature, etc.

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Author: n/a

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