

# “Testing the Temperature Controller on 2014/12/11”

Raul Monsalve  
Arizona State University  
2014/12/11

## Summary:

With the controller ON, and its output ON, I checked all the settings allowed by the “oven2.c” program (actually, it's my slightly modified version “oven2\_raul.c” in which I changed the USB port to which the controller is connected). The details are below.

I do not have access to the CD of the controller at the moment, so I am comparing the responses to the commands, to the default values displayed by “oven2” when typing “oven2\_raul -mode -1”.

There are a few inconsistencies related to orders of magnitude. They may or may not be caused by an actual problem. The alternative is for them just to be related to the format in which the output is displayed. I will look into this as soon as I can.

Specifically, the inconsistencies are:

- the voltage input1 (mode 01) is 21936, where the default is about 10 times lower (2500).
- the bandwidth (mode 41) should be 100 but it is 20.
- output voltage (mode 46) should be 1200 but it is 12000.
- alarm settings (mode 47) should be 10000 but it is 1000.
- maxtemp set (mode 4a) should be 1000 but it is 10000.

### **Reading input 1 (default, about 2500) PROBLEM HERE**

```
loco@edges-pc:/media/DATA/EDGES_codes/edges_c$ ./oven2_raul -mode 01
usbdev 3
(stx=2a)0001000009c481(etx=d)
status 10
start to read
status c resp *000055b0bc^
revcd from 01 = 21936 219.360000
chkrec bc
```

### **Reading switch voltage (default 12012)**

```
loco@edges-pc:/media/DATA/EDGES_codes/edges_c$ ./oven2_raul -mode 02
usbdev 3
(stx=2a)0002000009c482(etx=d)
status 10
start to read
status c resp *00002eec1f^
revcd from 02 = 12012 120.120000
chkrec 1f
```

### **Reading input 2 (default -26887)**

```
loco@edges-pc:/media/DATA/EDGES_codes/edges_c$ ./oven2_raul -mode 03
usbdev 3
(stx=2a)0003000009c483(etx=d)
status 10
start to read
status c resp *ffff978ba2^
revcd from 03 = -26741 -267.410000
chkrec a2
```

### **Reading power (default 0, for a temperature close to set point)**

```
loco@edges-pc:/media/DATA/EDGES_codes/edges_c$ ./oven2_raul -mode 04
usbdev 3
(stx=2a)0004000009c484(etx=d)
status 10
start to read
status c resp *ffffd55cc^
revcd from 04 = -683 -6.830000
chkrec cc
```

### **Reading alarm status (default 10)**

```
loco@edges-pc:/media/DATA/EDGES_codes/edges_c$ ./oven2_raul -mode 05
usbdev 3
(stx=2a)0005000009c485(etx=d)
status 10
start to read
status c resp *0000000ab1^
revcd from 05 = 10 0.100000
chkrec b1
```

### **Reading set point (default 2500)**

```
loco@edges-pc:/media/DATA/EDGES_codes/edges_c$ ./oven2_raul -mode 40
usbdev 3
(stx=2a)0040000009c484(etx=d)
status 10
start to read
status c resp *000009c4c0^
revcd from 40 = 2500 25.000000
chkrec c0
```

### **Reading bandwidth (default 100) PROBLEM HERE**

```
loco@edges-pc:/media/DATA/EDGES_codes/edges_c$ ./oven2_raul -mode 41
usbdev 3
(stx=2a)0041000009c485(etx=d)
status 10
start to read
status c resp *0000001485^
revcd from 41 = 20 0.200000
chkrec 85
```

### **Reading gain (default 0)**

```
loco@edges-pc:/media/DATA/EDGES_codes/edges_c$ ./oven2_raul -mode 42
usbdev 3
(stx=2a)0042000009c486(etx=d)
status 10
start to read
status c resp *0000000080^
revcd from 42 = 0 0.000000
chkrec 80
```

### **Reading derivative (default 0)**

```
loco@edges-pc:/media/DATA/EDGES_codes/edges_c$ ./oven2_raul -mode 43
usbdev 3
(stx=2a)0043000009c487(etx=d)
status 10
start to read
status c resp *0000000080^
revcd from 43 = 0 0.000000
chkrec 80
```

### **Reading input1 offset (default 0)**

```
loco@edges-pc:/media/DATA/EDGES_codes/edges_c$ ./oven2_raul -mode 44
usbdev 3
(stx=2a)0044000009c488(etx=d)
status 10
start to read
status c resp *0000000080^
revcd from 44 = 0 0.000000
chkrec 80
```

### **Reading input2 offset (default 0)**

```
loco@edges-pc:/media/DATA/EDGES_codes/edges_c$ ./oven2_raul -mode 45
usbdev 3
(stx=2a)0045000009c489(etx=d)
status 10
start to read
status c resp *0000000080^
revcd from 45 = 0 0.000000
chkrec 80
```

### **Reading voltage (default 1200) PROBLEM HERE**

```
loco@edges-pc:/media/DATA/EDGES_codes/edges_c$ ./oven2_raul -mode 46
usbdev 3
(stx=2a)0046000009c48a(etx=d)
status 10
start to read
status c resp *00002ee0ec^
revcd from 46 = 12000 120.000000
chkrec ec
```

### **Reading alarm settings (default 1000) PROBLEM HERE**

```
loco@edges-pc:/media/DATA/EDGES_codes/edges_c$ ./oven2_raul -mode 47
usbdev 3
(stx=2a)0047000009c48b(etx=d)
status 10
start to read
status c resp *000003e8c0^
revcd from 47 = 1000 10.000000
chkrec c0
```

### **Reading cool/heat (default 2)**

```
loco@edges-pc:/media/DATA/EDGES_codes/edges_c$ ./oven2_raul -mode 48
usbdev 3
(stx=2a)0048000009c48c(etx=d)
status 10
start to read
status c resp *0000000282^
revcd from 48 = 2 0.020000
chkrec 82
```

### **Reading alarm enable (default 0)**

```
loco@edges-pc:/media/DATA/EDGES_codes/edges_c$ ./oven2_raul -mode 49
usbdev 3
(stx=2a)0049000009c48d(etx=d)
status 10
start to read
status c resp *0000000080^
revcd from 49 = 0 0.000000
chkrec 80
```

### **Reading maxtemp set (default 1000) PROBLEM HERE**

```
loco@edges-pc:/media/DATA/EDGES_codes/edges_c$ ./oven2_raul -mode 4a
usbdev 3
(stx=2a)004a000009c4b5(etx=d)
status 10
start to read
status c resp *000027108a^
revcd from 4a = 10000 100.000000
chkrec 8a
```

### **Reading mintemp set (default -2000)**

```
loco@edges-pc:/media/DATA/EDGES_codes/edges_c$ ./oven2_raul -mode 4b
usbdev 3
(stx=2a)004b000009c4b6(etx=d)
status 10
start to read
status c resp *ffff83099^
revcd from 4b = -2000 -20.000000
chkrec 99
```

### **Reading heat side mult (default 1000)**

```
loco@edges-pc:/media/DATA/EDGES_codes/edges_c$ ./oven2_raul -mode 4c
usbdev 3
(stx=2a)004c000009c4b7(etx=d)
status 10
start to read
status c resp *000003e8c0^
revcd from 4c = 1000 10.000000
chkrec c0
```

### **Reading output enabled (default 1)**

```
loco@edges-pc:/media/DATA/EDGES_codes/edges_c$ ./oven2_raul -mode 4d
usbdev 3
(stx=2a)004d000009c4b8(etx=d)
status 10
start to read
status c resp *0000000181^
revcd from 4d = 1 0.010000
chkrec 81
```

### **Reading cool side mult (default 1000)**

```
loco@edges-pc:/media/DATA/EDGES_codes/edges_c$ ./oven2_raul -mode 4e
usbdev 3
(stx=2a)004e000009c4b9(etx=d)
status 10
start to read
status c resp *000003e8c0^
revcd from 4e = 1000 10.000000
chkrec c0
```