



## Hadar Jacobson

Art in Metal Clay

918 Ventura Ave, Berkeley, CA 94707-2123, (510) 528-4193  
[hadar@pacbell.net](mailto:hadar@pacbell.net) · [www.artinsilver.com](http://www.artinsilver.com)

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### How to Talk to Your Kiln

#### Programming Your Kiln to Fire Copper and Bronze Clay Powder

The firing schedule involves 2 phases.

##### Phase I

Arrange the pieces in the box as described in the file "Firing Base Metal Clay. Use a spoon to cover each piece with carbon. Do not cover the box with a lid. Elevate the box as high as possible in the kiln. If you have a venting hole, leave it open.

Press the left button until you reach a program that is not pre-set. If the left button doesn't bring you there, press the middle button. On some kilns it may be program 6 or 7. On my kiln it says: "User".



Press the left button again. The kiln will say: "Idle."

Translation: "I am doing nothing. Tell me what to do step-by-step."



Press the left button again. (Translation: "OK, start asking.")

The kiln says:  
"rA 1" (ramp 1).

Translation: "How quickly would you like me to reach the desired temperature the first time around?"



Your answer is “full speed,” which means “Ramp up as quickly as you can.” (This means by about 2000°F per hour.) Press the up and down arrows until the display says “Full.”



In a front loading kiln, instead of ramping at full speed, ramp at 1750°F (972°C).

Press the left button again. (Translation: “OK, what’s your next question?”) The kiln says: “°F 1.”



Translation: What is your desired *temperature* the first time around?

Using the up and down arrows answer: “1000 (538°C).”



In a front loading kiln answer: 1100 (593°C).

Press the left button again.

The kiln asks: “HLd1” (hold 1).



Translation: “How long should I *hold* at that temperature?”

Your answer: “30 minutes” (To say this, press the up and down arrows until the display reads 00.30).



Press the left button again.

Now the kiln asks: "rA 2" (ramp 2).

Translation: "How quickly would you like me to get to the desired temperature the second time around?"



Your answer is again: "0"



Press the left button again. The kiln asks: "°F 2."

Translation: "What is your desired temperature the second time around?"



Using the up and down arrows answer: "0"



Press the left button again.

The kiln asks: "HLd2"

Translation: "How long should I hold at that temperature?"



You answer: "Don't hold" (0.000).



The kiln will repeat the questions for the third time around. Keep answering 0.000 for all questions until the display says "Strt" (start).



Press the left button again. The kiln will say: "On."



After about an hour and 50 minutes the kiln will finish this cycle and beep. The first phase is over. Open the door and let the kiln cool some. **If you have a front loader carefully take out the box using a kiln fork as soon as the kiln beeps.** Using protective gloves take the box out and let it cool in a shaded place. To shorten the cooling time dip the box in cold water. Allow the kiln and the box to cool down below 200°F or to room temperature. If you don't want to touch the kiln while it's hot, just let everything cool inside the kiln. It will take a few hours, though.

## Phase II

Now you can plug the venting hole, although it's not necessary. Fill the box with carbon all the way to the top and cover the box with a lid.

As before, prompt the kiln for the next question by pressing the left button after each of your answers.

Kiln: "Ramp 1"?

You: "Full speed."



Kiln: “°F 1”?

You: “1480°F (804°C).”

In a front loader the answer is 1550°F (843°C)



Kiln: Hold 1?

You: “3 hours.”



The kiln will ask the same questions about the third time around. Answer “0.000” for all questions until the kiln says: “On.”

After about 3:30 hours the cycle is over and the kiln will beep.

### Short Version

#### Front loader muffle kiln

##### Phase I

Ramp at 1750°F (972°C) to 1100°F (593°C)  
Hold 30 minutes

##### Cool

##### Phase II

Full ramp to 1550°F (843°C)\*  
Hold 3:00 hours.

#### Top Loader brick kiln

##### Phase I

Ramp at full speed to 1000°F (538°C)  
Hold 30 minutes

##### Cool

##### Phase II

Ramp at full speed to 1480°F (804°C)\*  
Hold 3:00hours.

\* If bronze pieces blister at this temperature, lower the temperature to 1520°F (827°C) in the front loader, and to 1470°F (799°C) in the top loader kiln.

I'd like to thank Tonya Davidson for teaching me how to talk to my kiln.

