La Spaziale S1 Vivaldi II

Double Boiler Espresso Machine

Owner’s Manual Rev C

(Covers VII’s with and w/o Enhanced Temperature Offset and Programmable Preinfusion)

Last Updated on 2/07/2009 to add info on Extreme Temp Set Mode
S1 Vivaldi II Owner’s Manual

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1 Feature Overview

- Dual Boiler
- Steam Boiler 2.5 liter
- Steam Boiler Element 1250 Watts
- Group Boiler .45 liter
- Group Boiler Element 800 Watts
- Direct Plumbed
- Rotary Pump
- Volumetric Dosing Adjustable Through Touch Pad
- Group Temperature Indicated by lamp Display
- Group Temperature Adjustable in 1°C Increments Through Touch Pad
- New and Upgraded machines since 7/1/2008 include Extended Temperature Offset Adjustment and Programmable Preinfusion
- Electronic Boiler Refill
- Built in Safety Thermostat
- Semi Automatic Hot Water Delivery
- Manual Steam Valve
- Fault Diagnosis Alarms
- Combined Boiler and Group Pressure Gauge
- Two Complete Portafilter handles - Single and Double Baskets
- Extra shower screens, removal wrench, cleaning brush, tamper
- Includes rubber back flush disk
- OPTIONAL Pre Infusion Chamber
- OPTIONAL 7 Day Programmable Timer
- OPTIONAL No Burn Steam Arm
- OPTIONAL longer La Spaziale steam arm
- OPTIONAL Drain Kit
- Color Black, Silver, or Red
- 110 volt
- Available in either 15 amp or 20 amp
- ETL Sanitation Listed (Conforms to ANSI/NSF STD 4)
- c ETL us Listed (Conforms to UL STD 197 Certified to CAN/CSA STD C22.2 NO. 109
2 Reference Photos

These numbered photos will be referenced throughout the document; i.e. (13)

FIGURE 1 – Indicator Lights and Control Buttons
3 Document Scope – Caveats and Clarifications

This manual includes material that both duplicates and enhances the official LaSpaziale S1 Vivaldi II Instruction Manual in key areas. However, it does not duplicate the detailed and very important information covering machine certifications or ratings nor does it repeat all the warning and safety information contained on the “lawyer” pages. That information, as contained in LaSpaziale Instruction Manual, is considered included in this document by reference.

This document solely covers the S1 Vivaldi II plus options available and supported by the vendor and/or other vendors supplied through their exclusive distribution agreements with La Spaziale S.p.A.

4 Basic Machine Operation

(BOLD = lamps, Reverse = buttons, numbers in parentheses reference to above table)

4.1 15A or 20 Amp Operation

Please read this section first, especially if you purchased the 20A version of the LaSpaziale VII Mini but do not currently have an available 20A outlet.

The LaSpaziale VII is available in 15A and 20A versions. In actuality, they are both identical machines. There is an internal switch that selects the operating mode and they have different power cords installed. The power cord is the easiest way to tell which version you have. The 15A VII has a standard 3-prong AC plug with two parallel blades and a round ground pin. The 20A VII has a 3-prong plug with two perpendicular blades and a round ground pin. The 20A version therefore requires a 20A circuit which has a special 20A outlet which accepts the 20A plug.

Most modern kitchens have 20A circuits. However, they often do not use 20A outlets because multiple outlets may be on the same 20A circuit. If you have a 20A circuit with a 20A outlet this most likely means that outlet has its own dedicated 20A circuit and is safe to use with the VII. A 20A circuit with normal 15A outlets probably means that
multiple kitchen outlets are on the one 20A circuit. Often this means the refrigerator outlet. 20A VII owners should contact their electrician if unsure how to proceed.

The internal switch which places the VII in 15A mode does so by never allowing the group boiler and the steam boiler to operate at the same time. When the thermostats for both boilers try to turn on at the same time, the group boiler always has precedence, and then the steam boiler operates in sequential fashion. A number of 15A VII owners note that they see little operational effect when running in this mode.

The 20A VII allows both boilers to operate simultaneously. HOWEVER, it is possible to place the 20A VII into 15A mode without removing the covers from the machine and flipping the internal mode switch. This is called ECONOMY mode and is described later in this manual.

As a temporary solution, Economy mode is a great option for those that really want the 20A machine but that do not currently have a 20A circuit. However, this will require swapping out your standard 15A outlet with a 20A outlet. These are readily available from most hardware stores. For a more temporary solution there is an alternative such as this adapter cable. It is also available elsewhere or you can make your own with a quick trip to your local hardware store.

Locating/Changing the 15A / 20A Mode Switch

1. The Vivaldi VII must be unplugged and allowed to cool down first.
2. Remove any cups from the cup warming tray (7)
3. Remove the single screw in the front middle of the cup warming tray (7) as shown in the photo below
4. From the front of the machine look down into the top of the machine. In the right rear of the machine you will see a toggle switch with its positions labeled 15 and 20. Reach down with the same screwdriver you used to remove the cup warming tray and flip the switch to the desired position.

4.2 Initial Installation Before Connecting Power
After removing the VII from its packing carton and setting it on the counter, check for additional installation instructions that may be included. You should also have all the accessories shown in the photo below including a rubber backflush disk (not shown).
Tip the VII on its side. Twist all four rubber feet (3) hand tight as they may vibrate loose during shipping. While performing that task, use a screwdriver to ensure that the four screws on the bottom (two on each side between the rubber feet) which fasten the two side panels (5) to the chassis bottom are tight. These steps will help ensure the quietest possible operation of your VII.

Be sure you connect the included water hose to the threaded water inlet on the bottom of the machine. Proper connection is obvious since there is only one place it can attach. The opposite end of the hose - which connects to the water supply - may require adapters from your local hardware store depending on your specific situation. Contact your VII dealer for advice if the solution isn’t obvious. Also, your VII dealer may request that you check that your water hardness is below a certain level to ensure long life and trouble free operation. Hardness test strips may be included for this purpose. If your water fails this test, contact your VII dealer and discuss the available options.

Once water supply is properly attached, turned on, and the desired basket has been inserted into one of the portafilter handles, attach the portafilter to the group. Be sure that the drip tray is installed by sliding it into place at the bottom front of the machine.

4.3 Turning On and Heating the Machine

1) Insert the plug into the 110V AC socket, the On/STBY light (22) starts flashing. (Stand-by mode).
2) Press the ON/OFF (27) button and keep it pressed for about 3 seconds, the green On/STBY light (22) changes from flashing to steady indicating the machine is ON. At the same time the lights from (14) to (21) turn on steadily for about a second (indicating power on test mode).
3) The light corresponding to the set temperature starts flashing to indicate that the group is heating and the automatic boiler refill starts until the water level preset by the manufacturer is reached.

4) Once the filling process is finished, the **BOILER** light (13) starts flashing to indicate that the boiler is heating. However, after first switching on, the boiler doesn't work until the group has reached the set temperature.

5) Fasten the portafilter handle (11) to the brewing group (10).

6) Wait until the set temperature is reached, by checking that the lights on the control panel (9) gradually turn on as the temperature rises. The visualization starts as soon as the temperature reaches 91°C (turning on of light 14) and continues until the machine has reached its operating temperature (light from flashing to fixed).

7) When the group has reached the set temperature, the boiler heating starts (**BOILER** light (13) flashing), once it reaches the set temperature the light becomes fixed.

8) Every time the group temperature or the boiler temperature drops under the set value, the respective light starts flashing (heating phase) until the set temperature is reached.

9) The machine is now ready.

**WARNING!!**

To activate and deactivate the boiler mode press the **BOILER** (26) button. Every time you turn on the machine, the boiler is in service.

When the boiler is turned off, it is impossible to use hot water for infusions or steam delivery.

The machine can also operate in the economy mode (see relative paragraph).

4.4 *Espresso Brewing*

1. Unfasten the portafilter handle (11) from the brewing group (10) and insert the filter for one or Double Cups. Fill it with ground coffee (aprox 7g for a single or 14-15g for a double), making sure not to leave coffee powder on the upper edge of the portafilter handle (11), and press it with the suitable coffee tamper provided.

2. Firmly attach the portafilter handle (11) to the brewing group (10).

3. Place one or Double Cups under the portafilter handle (11).

4. Press the button corresponding to Single Cup (24) if you want to make one coffee or Double Cups (25) to start the delivery. Once the desired quantity of coffee programmed is reached, the delivery automatically stops.

4.5 *Volumetric Dose Programming*

The programmable volumetric dosing feature allows programming of the **Single Cup** (24) and **Double Cup** (25) buttons to dispense whatever quantities of espresso the user desires. Their use for single cup and double cup quantities is merely a
suggestion. Many users only pull double shots and program the double shot button for 1.5-2.0oz for that purpose. Then they program the Single Cup button for a larger amount for use in flushing the portafilter basket and/or the group between shots. The beauty of the programmable dosing feature is that the machine owner can be creative. The following are the instructions for programming each button assuming they are being used for single and double shots.

1. With the machine on, press the ON/OFF (27) button and keep it pressed for about 3 seconds; the control light (22) and the one indicating the set temperature start flashing.
2. Insert the single cup basket into the portafilter handle (11) and fill it with 7-8g of ground coffee making sure not to leave coffee powder on the upper edge of the portafilter handle, and press it with the included plastic tamper or, more optimally, a high quality 53mm coffee tamper.
3. Fasten the portafilter handle (11) to the brewing group (10), placing a cup under the portafilter handle.
4. By pressing the Single Cup button (24) the delivery starts and the lights 14-15-16 turn on to show that the one shot espresso dose is being programmed.
5. When the coffee inside the cup has reached the desired quantity, again press the button (24) to stop the delivery.
6. You automatically return to the initial visualization.
7. Repeat the previous steps above using the Double Cup button (25) making sure you change the filter inside the portafilter handle (11) to the double shot basket and fill it with 14-16g of espresso first.

4.6 Hot Water Delivery
(only possible with the boiler turned on, BOILER light 13 on)

1. Place the pitcher below the hot water output (28):
2. Press the Hot Water delivery push-button (23).
3. The hot water delivery starts.
4. Once the desired quantity is reached, stop the delivery by pressing the Hot Water button (23) again

4.7 Steam Delivery
(only possible with the boiler turned on, light 13 turned on)

1. Insert the steam wand (2) in the pitcher containing the drink to be heated.
2. Turn the steam knob (6) counter-clockwise, regulating the steam flow according to the need.
3. At the end of the heating phase of the drink, stop the steam delivery by turning the steam knob (6) clockwise
4. Remove the pitcher from the steam wand (2) and wipe the steam wand and tip immediately with a clean, damp sponge in order to remove all residue of the heated drink.
WARNING!!

Do not turn the steam knob (6) before placing the steam wand (2) inside the pitcher, in order to avoid burns.

4.8 Economy / Boiler Operational Modes

On the 20 Amp models of the LaSpaziale VII, the BOILER button performs two standard roles:

1. Turning the Steam boiler on and off
2. Entry and exit of Economy mode

There are three possible operational modes of the two boilers in the La Spaziale VII 20A model:

1. Both boilers are completely independent, turning on and off according to the needs of each. Both can be on at the same time. This is the default mode.
2. The BOILER button can toggle the Boiler on and off. This mode is useful for those that only drink espresso and do not need steam or hot water and want to conserve energy.
3. The BOILER button can also be used to switch in and out of Economy mode. In this mode only one boiler can be on at a time. The VII automatically controls which is on according to demand with preference going to the group boiler. This is useful for those owning the 20A model but lacking a 20A circuit.

4. Turning the Steam/Hot Water Boiler On and Off
1. The VII must be in ON mode, not Standby for all operations below.
2. Momentarily press the BOILER button
3. The Boiler lamp turns off. Neither steam nor hot water is available.
   Note: if you turn the VII Off then On again, or if power is removed and restored to the VII, the Boiler returns to the On state.
4. Momentarily press the BOILER button again.
5. The BOILER lamp is on (or blinking). Steam and hot water are available.

Turning Economy Mode On and Off

5. The VII must be in ON mode, not Standby for all operations below.
6. Press the BOILER button for 10 seconds until the ECON lamp illuminates. Economy mode is now active.
   Note: if you turn the VII Off and On again or if power is removed and restored to the VII, Economy mode remains active until you perform step 4, below.
7. While in Economy mode you can momentarily press the BOILER button to completely turn off the boiler. Another momentary press returns you to Economy mode.
8. To exit Economy mode, press and hold the **BOILER** button for 10 seconds until the **ECON** lamp is extinguished.

### 4.9 V1/VII Mode Switch

The VII Controller board actually has a backward compatible mode that emulates the functionality of the original VI. None of the advanced features of the VII are available when the controller is in VI mode. If you don’t seem to be able to access the VII features, your machine might have inadvertently gotten switched to VI mode. If in doubt as to which mode you are in, just unplug the VII and then plug back in to see if the three yellow or three green lamps blink once. Yellow = VII mode and Green = VI mode.

With the VII in Standby mode (**ON/STBY** blinking green), press and hold the **Hot Water** button for at least 10 seconds. If three yellow lights blink once your machine is now in VII mode. If three green lights blink once the machine is now in VI mode. Each time you hold in the **Hot Water** button for 10 seconds while in Standby (**ON/STBY** blinking green), the mode toggles.

Note that if you change from VII mode and then back again all the V2 specific settings are lost and must be reset.

### 4.10 Espresso Group Water Temperature Regulation

#### 4.10.1 Standard Temperature Adjustment

1. When the machine is On (**ON/STBY** solid green), press the button **ON/OFF** (27) and keep it pressed for 3 seconds, the control light (22) and the one concerning the set temperature start flashing. For example, if the set temperature is 95°C, light (18) starts flashing.

2. In order to change the operating temperature, press and release the **Hot Water** button (23); every press of the button corresponds an increase of the temperature of 1°C (with the flashing of the corresponding light). When the maximum temperature of 97°C (20) is reached, the selection restarts from the minimum temperature of 91°C (14) (cyclic mode).

3. Once you choose the desired temperature, in order to lock in this value, press the **ON/OFF** (27) button, the machine will then go back to its normal functioning.

The value of the operating temperature of the machine is easily changed in order to improve the final result in the cup depending on the coffee blend used and the user’s personal preference.

#### 4.10.2 Offset Temperature Adjustment

**What Does Temperature Offset Do? / How Do I Use It?**

The Vivaldi group design exhibits a temperature drop between where the group boiler temperature probe is located and where the hot water exits the group. Consequently, the temperature setting shown by the temperature lamps on the front panel may differ from the water temperature at the group. Ideally, most users would prefer that the
temperature indicated by the temperate lamps exactly matches the water temperature exiting the group. LaSpaziale has partially accounted for this in its basic design. However, there are too many machine to machine electrical and mechanical variances for this to be completely effective. That’s where the temperature offset comes in. The programmable temperature offset allows a user with accurate group temperature measuring equipment to enter an offset in the range of ±8°C (for extended offset option or 0 to -8°C for standard offset option) in order to allow their machines temperature lamps to exactly match the water temperature exiting the group.

Those purchasing new machines from Chris Coffee Service have had the temperature offset professionally programmed used a Scace device. However, for those obtaining the expanded offset capability via an upgrade, it is recommended that you note the current offset prior to upgrading and then duplicate that offset using the instructions below. If you do not know how to tell what your current offset is, you can find out by entering the temperature offset mode and then following instructions in paragraph 4.10.2.

**To Which Machines Do These Instructions Apply?**

Instructions are given in the two sections below both. This first is for machines with the original offset adjustment. The section that follows is for machines with the extended temperature offset adjustment. In general if you purchased a new VII from Chris Coffee after 7/1/2008 or if you know that you upgraded your older machine after that date, then the extended offset instructions should apply.

If you are unsure, try both methods outlined below. Only one will work and then you'll know which version you have.

**4.10.2.1 Standard Temperature Offset Adjustment**

With the machine in Standby (only ON/STBY green lamp blinking), press the BOILER button until the green ON/STBY lamp and the red BOILER lamp are blinking (about 10 seconds).

If the Offset = 0°C, then no other lamps are lit. Assuming a start with Offset = 0°C, each press of the BOILER button, changes the offset by -1°C and lights an additional lamp starting with the 91°C lamp and going up through the ECON lamp. Once all eight offset lamps are lit, an additional press of the BOILER button cycles back to 0°C offset.

To exit the Offset mode, press ON/OFF (machine in Standby – ON/STBY blinking). When entering the Offset mode the next time, the last stored value is displayed.
See table below:

<table>
<thead>
<tr>
<th>Offset</th>
<th>91°C Lamp</th>
<th>92°C Lamp</th>
<th>93°C Lamp</th>
<th>94°C Lamp</th>
<th>95°C Lamp</th>
<th>96°C Lamp</th>
<th>97°C Lamp</th>
<th>ECON Lamp</th>
</tr>
</thead>
<tbody>
<tr>
<td>0°C</td>
<td>Off</td>
<td>Off</td>
<td>Off</td>
<td>Off</td>
<td>Off</td>
<td>Off</td>
<td>Off</td>
<td>Off</td>
</tr>
<tr>
<td>-1°C</td>
<td>On</td>
<td>Off</td>
<td>Off</td>
<td>Off</td>
<td>Off</td>
<td>Off</td>
<td>Off</td>
<td>Off</td>
</tr>
<tr>
<td>-2°C</td>
<td>On</td>
<td>On</td>
<td>Off</td>
<td>Off</td>
<td>Off</td>
<td>Off</td>
<td>Off</td>
<td>Off</td>
</tr>
<tr>
<td>-3°C</td>
<td>On</td>
<td>On</td>
<td>On</td>
<td>Off</td>
<td>Off</td>
<td>Off</td>
<td>Off</td>
<td>Off</td>
</tr>
<tr>
<td>-4°C</td>
<td>On</td>
<td>On</td>
<td>On</td>
<td>On</td>
<td>Off</td>
<td>Off</td>
<td>Off</td>
<td>Off</td>
</tr>
<tr>
<td>-5°C</td>
<td>On</td>
<td>On</td>
<td>On</td>
<td>On</td>
<td>On</td>
<td>Off</td>
<td>Off</td>
<td>Off</td>
</tr>
<tr>
<td>-6°C</td>
<td>On</td>
<td>On</td>
<td>On</td>
<td>On</td>
<td>On</td>
<td>On</td>
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<td>-7°C</td>
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<tr>
<td>-8°C</td>
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<td>On</td>
<td>On</td>
<td>On</td>
<td>On</td>
<td>On</td>
</tr>
</tbody>
</table>

4.10.2.2 Extended Temperature Offset Adjustment

Start with the machine in Standby mode (ON/STBY blinking green). Press and hold the BOILER button for about 10 seconds until the Boiler light and the ON/STBY light start flashing. You are now in the temperature offset programming mode.

To enter a positive temperature offset between 0°C and +8°C push the Single Cup button. Each press will change the offset by +1°C. An offset of 0°C is designated by all temperature lamps off. A +8°C offset is designated by all temperature lamps plus ECON on (Low Water on VII Mini). If your positive offset is more than you wish, each press of the Double Cup button changes the offset by -1°C.

To enter a negative temperature offset between 0°C and -8°C mode push the Double Cup button. Each press will change the offset by -1°C. An offset of 0°C is designated by all temperature lamps off. A -8°C offset is designated by all temperature lamps plus ECON on. If your negative offset is more than you wish, each press of the Single Cup button changes the offset by +1°C.

How Do I Tell If My Current Offset is Negative or Positive?

Example: You enter Offset Programming mode and see that three lamps are on. This can indicate either ±3°C. Which is it? Since each press of the Double Cup button changes the offset by -1°C, press it and see what happens. There will either be two or four lamps lit. If four lamps are lit the offset must have been -3°C since pressing Double Cup always changes the setting by -1°C with each press. If two lamps are lit...
the offset was +3˚C. By pressing Double Cup the offset has changed to +2˚C.

-8 -7 -6 -5 -4 -3 -2 -1 0 +1 +2 +3 +4 +5 +6 +7 +8 ˚C Offset

Note that neither the Single Cup nor the Double Cup button presses wrap around when they reach the limit of their range. Once you get to +8˚C additional presses of the Single Cup button do nothing. Same with the Double Cup button once -8˚C is reached.

See table below:

<table>
<thead>
<tr>
<th>Offset</th>
<th>91ºC Lamp</th>
<th>92ºC Lamp</th>
<th>93ºC Lamp</th>
<th>94ºC Lamp</th>
<th>95ºC Lamp</th>
<th>96ºC Lamp</th>
<th>97ºC Lamp</th>
<th>ECON Lamp</th>
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<tr>
<td>0ºC</td>
<td>Off</td>
<td>Off</td>
<td>Off</td>
<td>Off</td>
<td>Off</td>
<td>Off</td>
<td>Off</td>
<td>Off</td>
</tr>
<tr>
<td>±1ºC</td>
<td>On</td>
<td>Off</td>
<td>Off</td>
<td>Off</td>
<td>Off</td>
<td>Off</td>
<td>Off</td>
<td>Off</td>
</tr>
<tr>
<td>±2ºC</td>
<td>On</td>
<td>On</td>
<td>Off</td>
<td>Off</td>
<td>Off</td>
<td>Off</td>
<td>Off</td>
<td>Off</td>
</tr>
<tr>
<td>±3ºC</td>
<td>On</td>
<td>On</td>
<td>On</td>
<td>Off</td>
<td>Off</td>
<td>Off</td>
<td>Off</td>
<td>Off</td>
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<tr>
<td>±4ºC</td>
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<td>On</td>
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<td>On</td>
<td>Off</td>
<td>Off</td>
<td>Off</td>
<td>Off</td>
</tr>
<tr>
<td>±5ºC</td>
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<td>On</td>
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<td>On</td>
<td>On</td>
<td>Off</td>
<td>Off</td>
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<tr>
<td>±6ºC</td>
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<td>On</td>
<td>On</td>
<td>On</td>
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<td>On</td>
<td>Off</td>
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<td>±7ºC</td>
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<td>On</td>
<td>On</td>
<td>On</td>
<td>On</td>
<td>On</td>
</tr>
<tr>
<td>±8ºC</td>
<td>On</td>
<td>On</td>
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<td>On</td>
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<td>On</td>
<td>On</td>
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</table>

4.10.3 Extreme Temperature Set Function

Standard temperature programming described in section 4.10.1 allows a range from 91ºC to 97ºC in 1ºC increments. There may be times when the user desires a temperature outside of this range. While the Offset mode described in section 4.10.2 could be used for this purpose, it is best to use the offset as intended. Once set properly, the offset should be left alone. Instead, the VII Mini includes a mode specifically for use in extending the temperature range above 97ºC or below 91ºC up to a max of 3ºC. While the ability to extend the temperature above 97ºC is of limited use, there are some types of coffee whose flavor is optimum in the 88ºC to 90ºC range.
Note that the method below only works if the master temperature is set to either 91ºC or 97ºC. If the temperature is set to 91ºC you can only use the instructions below to lower the temperature by 1ºC, 2ºC, or 3ºC. If the temperature is set to 97ºC you can only use the instructions below to raise the temperature by 1ºC, 2ºC, or 3ºC. Consequently you must use the instructions provided in section 4.10.1 to set the master temperature to 91ºC or 97ºC BEFORE using the instructions below. If this is not done, the instructions below for entering the Extreme Temperature Set mode will work as described, but once in that mode attempting to a raise or lower the temperature has no effect.

Instructions for programming this mode AFTER setting the master temperature to 91ºC or 97ºC are:

- Start with the machine in Standby mode (ON/STBY light flashing).
- Press and hold the Two Cup button for ~3 seconds until lights 94ºC (17) and 95ºC(18) come on indicating that the Extreme Temperature Function setting mode is active.
- If you start with the master temperature set to 97ºC, each time that the Hot Water button is pressed, lights 96ºC (19), 97ºC (20), and Econ (21) will switch on in succession. Each light indicates a 1ºC increase. All three lights on = 100ºC.
- If you start with the master temperature set to 91ºC, each time that the One Cup button is pressed, lights 93ºC (16), 92ºC (15), and 91ºC (14) will switch on in succession. Each light indicates a 1ºC decrease. All three lights on = 88ºC.
- Press the Two Cup button again to exit Extreme Temperature set mode and return back to Standby mode.

Notes:

When you change the temperature of the 91ºC and/or 97ºC buttons according to the above instructions, the change only remains in effect until the temperature is changed. For example, if you change the 91ºC selection by 3ºC to yield 88ºC, then later change the temperature to 93ºC, the next time you select 91ºC, you will get 91ºC, not 88ºC. If you wish to obtain 88ºC again you will need to follow the above instructions to reprogram in the 3ºC decrease.

4.11 Programmable Preinfusion

Note: only machines purchased or upgraded after 7/1/08 have this feature.

With the machine on (ON/STBY (22) lit and not blinking), press and hold the ON/OFF button(27) for three seconds until the ON/STBY (22) and the current preset temperature lamps are both blinking. Then press the BOILER button (13) for 3 seconds. The temperature plus ECON lamps now display the current time delay between when the
group water solenoid opens and when the pump is activation. This is the preinfusion
time. If none of the lamps 14-21 are lit, the preinfusion time is 0 seconds which means
no preinfusion. Each press of the BOILER button (13) increases preinfusion time by 1
second and lights one more lamp up to a maximum of 8 seconds when all of the
temperature and ECON lamps (14-21) are lit. When preinfusion is set to 8 seconds,
another press of the BOILER button (13) resets the preinfusion back to 0 seconds.

Once the preinfusion time is set as desired, press the ON/OFF button (27) to exit the
programmable preinfusion mode.

This feature should be coupled with an external pressure regulator plus a pressure
gauge. Chris Coffee recommends an initial setting of 20-25PSI (~1.5bar) of input water
pressure and 2-3 seconds of preinfusion time. Other articles on programmable
preinfusion suggest a higher input pressure of around 45psi (3 bar). Feel free to
experiment with both settings to optimize your espresso experience.

5 Alarm Handling

The VII uses computerized sensors to robustly handle VII device malfunctions. There
are two types of alarms the VII can generate:

Blocking Alarms – these are the most serious. The VII will turn itself Off and display
the alarm codes noted below when one of these alarms occurs.

Non-Blocking Alarms – These are informational only and, while they do represent an
error condition, the machine will continue to function.

5.1 Coffee Group Water Dosing System Failure

This is a non-blocking alarm. When the flow meter isn't working properly or when the
coffee grind is too fine, this is indicated by the turning on of the lights 14-15-16; if you
are making one coffee dose, and the lights 17-18-19 if you are making two coffee
doses.

This alarm is actually useful when back flushing as an indication of when to turn off the
pump and allow the 3-way valve to operate.

5.2 Coffee Group Temperature Detection System Failure

This alarm is a blocking one, and occurs when the temperature probe of the group is in
short circuit (temperature >145°C) or is in open circuit (disconnected) condition
(temperature <60°C). The lights 20-21 turn on.

If the group water temperature does not exceed 60°C within 5 minutes of turning the
unit on, this alarm will also occur.

Turn off the VII and request service.
5.3 **Steam Boiler Temperature Detection System Failure**
(only with the boiler turned on)

This is a blocking alarm and occurs when the temperature probe of the boiler is in short circuit (temperature >145°C) or it is in open circuit (disconnected) condition (temperature <60°C). The lights 19-20-21 turn on.

The alarm can be temporarily cleared by turning the boiler off (Press BOILER (26) button.) Eventually you will need to turn off the VII and request service.

5.4 **Damaged Group Heating Element Triac**
This alarm is a blocking one, and occurs when the group triac always remains in conduction (temperature >140°C). The lights 20-21 are flashing.

Turn off the VII and request service.

5.5 **Damaged Boiler Heating Element Triac**
(only with the boiler turned on)

This alarm is a blocking one, and occurs when the boiler triac always remains in conduction (temperature >140°C). The lights 19-20-21 are flashing.

Turn off the VII and request service.

5.6 **Boiler Automatic Refill System Failure**
(only with the boiler turned on)

This is a blocking alarm which is signaled by blinking of the Boiler (13) light. If the pump runs for more than 1 minute attempted to refill the boiler without the controller circuit receiving a boiler full signal, this alarm is triggered.

This alarm can be temporarily cancelled by pressing the BOILER (26) button to turn off the boiler. The VII can be operated with the steam boiler off until repairs to the boiler function occur.

**Factoid:** A triac is a device to which a small DC control voltage can be applied in order to turn on a large AC current source. One is used for each boiler in the VII. Think of a triac as a solid state semiconductor equivalent of an electromechanical relay. TRIAC is an acronym for Triode for Alternating Current.
6 Connection Diagrams

6.1 Electrical Connection Diagram
6.2 Control Board Connection Diagram

6.3 Triac Board Connection Diagram

(Cooling Fan is below this board and runs only when boiler is heating)
6.4 Control Panel Connection Diagram

6.5 Wiring Diagram Definitions
- **EV GR**: Coffee brewing group solenoid valve
- **EV H**: Hot water delivery solenoid valve
- **EV AL**: Automatic refill system solenoid valve
- **T1**: Connection on control board of the triac that feeds the boiler heating element
- **T2**: Connection on control board of the triac that feeds the group heating element
- **P1**: Connection of the control board on the triac that feeds the boiler heating element
- **P2**: Connection of the control board on the triac that feeds the group heating element
- **SER 1**: Connection control panel on control board
- **SER 2**: Connection control board on control panel
- **F**: Flow meter
- **F1 in**: Phase inlet into the triac that feeds the boiler heating element
- **F2 out**: Phase outlet from the triac that feeds the boiler heating element
- **F2 in**: Phase inlet into the triac that feeds the group heating element
- **F2 out**: Phase outlet from the triac that feeds the group heating element
- **S1**: Boiler temperature probe
- **S2**: Brewing group temperature probe
- **SL**: Boiler water level control
- **SB**: Only used on the VII Mini Models
- **V**: Ventilator connection (boiler triac cooling fan)
- **MP**: Motor pump
- **RC**: Heating element brewing group
- **TSC**: Safety thermostat for brewing group heating element
- **RB**: Boiler heating element
- **TSB**: Safety thermostat for boiler heating element
- **JP4**: 15/20A Mode Selector Connection
- **JP3**: Optional Timer Switch Connector
- **SD**: Optional Timer On/Off Switch
- **SE**: 15/20A Mode Switch
7 VII Water Flow Diagram

The information below is provided strictly as a reference for VII owners who are curious about the function of their VII Dual Boiler design.

LaSpaziale V2 Water Flow Diagram

Notes:
1) The pump does not block water flow when it is not running. When the pump is off, street water pressure remains at the pump outlet in the V2. This means that water pressure is constantly applied through 3-way T #1, through 3-Way T #2, and into the group boiler. Refill of the steam boiler requires activation of Solenoid Valve A which occurs in response to the water level sensor inside the Steam Boiler. Even though the pump delivers full pressure when it needs to fill the steam boiler, a gicleur which is part of Solenoid valve A, restricts the pressure and flow into the steam boiler.

2) A properly adjusted expansion valve should open >12bar. This situation might arise if the pump pressure is too high and has insufficient flow through the group or if the group boiler pressure gets too high even when the pump is off.

3) Connector T#3 has a one way valve at its output to prevent water from flowing backwards into the water mains when the pump is not running. Connectors T#1 and T#2 are open to pass water in all directions all times. When the pump is running whether flow is to the steam boiler or the group boiler is determined by which solenoid valve is active.

4) The Volumetric Flow Sensor sends a signal to the computer controller board so it can sense the pre-programmed flow to the group and shut off the pump when the correct amount of water has been delivered.
8 Adjustments and Maintenance

8.1 External VII Surface Cleaning
Use a damp sponge and wipe dry with a soft cloth. Alternately, window cleaner wiped off with a dry soft cloth works well.

8.2 Routine Group Cleaning
The extra pair of shower screens was not included with your VII so you’d have an extra set. They are included as part of LaSpaziale’s recommended cleaning regimen which is targeted at light commercial use where there is no time for a complete detergent based back flush routine. The reason for LaSpaziale’s double shower screen arrangement is to trap grounds between the screens so that the 3-way valve rarely, if ever, needs a detergent cleaning.

- With the VII on and fully heated, use the included key wrench to remove the shower screen bolt.
- Drop out the two screens and the dispersion disk.
- Use the included plastic handled wire brush to quickly scrub the group head while water is running through the group to flush out the particles. (This is why the long handled brush - to keep your hands away from hot water.)
- Also, give the dispersion disk a quick scrub.
- Reassemble using the other set of screens.
- Soak the original set of screens in Cafiza, Joe Glo, or similar detergent, scrub, rinse, and put away for next time.

The Way Most Mini V2 Users Actually Do It:
As noted above the official LaSpaziale method was developed assuming the machine is in light commercial use. This is certainly not the target market for the Mini V2. Here is how most users clean their coffee group:

- Start with the basic procedure above, though most folks use something like a Pallo brush rather than the wire brush that came with the machine for the 3rd step. Once the clean screens and dispersion disk are back in the machine perform the following steps.
- Using 1/3 tsp Cafiza, Joe Glo, or similar detergent every 2-4 weeks is plenty for home use. Backflush the S1 Vivaldi II Mini more often with plain water.
- Place the backflush disk in the double basket with 1/3 tsp of Cafiza powder.
- Press the single cup button. In 5-10 seconds the three yellow LEDs will start to blink.
- Press the single cup button again to stop the pump which automatically engages the 3-way valve. (The three yellow LEDs normally come on when
you grind too fine and choke the machine. So the instant this condition is sensed is the ideal point at which to engage the 3-way valve.)

Perform the above cycle 5 times waiting about 30 seconds between each cycle.

Then rinse the remaining detergent from the basket and replace the portafilter with the backflush disk still installed.

Backflush for 5 more cycles to rinse the remaining residue from the group and 3-way valve.

Remove the backflush disk, make shot of espresso and throw it out.

**Important Tip:** To maximize the effectiveness of the cleaning process and minimize how often a detergent cleaning is required, after every series of shots is pulled, run a shot with the PF remove. Scrub the screens and around the gasket with a Pallo brush while the hot water is exiting the group. This will flush most of the grounds and sediment into the drip tray.

---

**NOTE:** The following are advanced maintenance and adjustment procedures. Do not perform them without the proper tools and confidence that you can do them properly. When in doubt always contact your VII dealer first.
8.3 Group Pressure Test and Adjustment
This adjustment and the one covered in the next section require that use of a Portafilter with the rubber disk or blind filter basket. (The same one used for back flushing.) For clarity the portafilter is not shown in the photo but it MUST be used.

Removal of the chrome panel behind the portafilter is required. This is the panel through which protrudes the boiler/group pressure gauge. Use a large Phillips screwdriver to remove the two screws adjacent to the numbers (5) on the diagram on page 2. Then remove the panel. Attach the portafilter with rubber disk or blind basket. The adjustment screws are designated by the letters “A” and “B” in the diagram below. First, loosen the lock nut “A” (14mm wrench). Press the Single Cup (24) or Double Cup (25) button and wait for the group pressure gauge “D” to stabilize. Most users prefer group pressure in the range 8.2-9.0 bar. Turning the adjuster nut “B” (10mm wrench) counter-clockwise lowers the pressure, turning it clockwise increases the pressure. When it is set to your preferred pressure, tighten the lock nut and recheck. Then reattach the front panel. Should your water supply pressure change significantly, readjustment will be required as the rotary pump supplies an adjustable boost to the supply pressure. However, if you add an in-line pressure regulator to the water supply line this should not be required. If your water supply pressure is higher than 30psi, a water pressure regulator can also reduce or eliminate expansion valve drips.
8.4 Expansion Valve Release Adjustment
This procedure starts by removing the chrome front panel as in the above procedure and also requires the portafilter with rubber disk or blind filter basket.

1. Adjust the group pressure to 12.5 bar per the following instructions:
   a) Loosen lock nut "A" using the 14mm wrench
   b) Tighten nut "B" 1-2 turns using the 10mm wrench
   c) Turn on pump until pressure on the Group Pressure gauge “D” stabilizes
   d) Repeat steps b & c until pressure reads 12.5 bar
2. The expansion valve “C” should open at 12.5 bar
3. If no water is dripping or running from the tube below nut "C" at 12.5 bar the expansion valve is set too high. Use the 21mm socket to loosen nut "C" (rotate counter-clockwise as viewed from the bottom of this valve) until the valve just opens when running the pump as the pressure reaches 12.5 bar.
4. If water is pouring out of tube below "C" before the pressure hits 12.5 bar, use the 21mm socket to tighten nut "C" (rotate clockwise and viewed from the bottom of this valve) until the valve is just opening at this pressure. If you back off the PF pressure to 12 bar all dripping should stop - though it may take a minute or two for residual moisture to drip out.
5. Once you are convinced that the expansion valve is properly calibrated, readjust the rotary pump pressure by unscrewing "B" to reach your preferred pressure - normally in the range of 8.2 to 9.0 bar. Then tighten lock nut "A".

Notes:

1) Make small adjustments, then turn the pump on and check. Don't attempt any of these adjustments while the pump is on.
2) The term expansion valve is somewhat of a misnomer as this device is really the overpressure valve for the group boiler. The steam boiler has its own dedicated valve.
9 Optional Accessories

These can be ordered and installation arranged at the time you order the Mini V2. In addition, they can be ordered latter and self-installed if you are the handy with simple metric tools.

Pre-Infusion Chamber

Click the link below for the Installation Guide:


Drain Kit

Programmable Timer

Use this link to download the installation and programming guide for this device:

http://s1cafe.com/s1v2/images/Vivaldi%20Timer%20Instructions.pdf
Longer Steam Arm (Shown next to stock arm)
Optional “No Burn” Steam Arm (shown next to stock steam arm)

10 Other LaSpaziale VII Resources
In addition to your VII supplier, current users are an excellent information resource: Check out these internet sites:

http://www.home-barista.com – reviews, forums, and lively discussions on all coffee topics
http://www.coffeegeek.com - Here you will find lively debate on all things coffee and VII information, including reviews by owners.
http://www.s1cafe.com/s1v2 – Website devoted solely to the VII with links to one dedicated to the V1 and to the forum below
http://www.s1cafe.com - an on-line forum for V1, VII, and VII Mini owners to share information and ask questions.

http://www.bellabarista.co.uk/pdf/Laspaziales1vivaldiMKIIcloserlookv4.pdf - Detailed review of the European model called the MKII.
# Quick Setting Guide

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