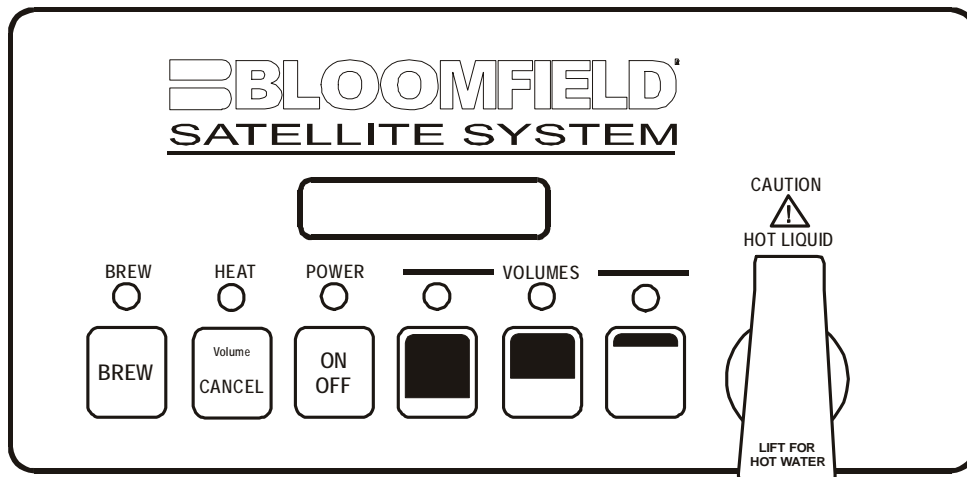


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## PROGRAMMING MANUAL for SATELLITE BREWERS



E-Max BREWERS are covered under  
U. S. Patents #5704275, 5862738, 6095031.  
Other U.S. Patents and Canadian Patents Pending

## GENERAL PROCEDURES & PRECAUTIONS

**NOTE:** This *Programming Manual* is intended for use by qualified technical personnel only. Persons not qualified in the servicing of Bloomfield equipment must not attempt to install or program this equipment.



**CAUTION:** DO NOT plug in or energize this appliance until Installation Instructions are read and followed. Damage to the Brewer will occur if these instructions are not followed.



**WARNING:** All installation procedures must be performed by a qualified technician with full knowledge of all applicable electrical and plumbing codes. Failure could result in property damage and personal injury.



**WARNING:** This appliance dispenses very hot liquid. Serious bodily injury from scalding can occur from contact with dispensed liquids.



**WARNING:** All servicing requiring access to non-insulated components must be performed by a qualified service technician. Do not open any access panels which require the use of tools. Failure to follow these directions can result in electrical shock.

**NOTE:** This manual should be considered a permanent part of this appliance. The manual must remain with the appliance if it is sold or moved to another location.

## TABLE OF CONTENTS

<b>General Procedures &amp; Precautions</b>	Page	xi
<b>Electrical Specifications</b>	Page	1
<b>Operating Instructions</b>	Page	2
<b>Programming Instructions</b>		
Control Panel Keys	Page	6
To Access the Programming Mode	Page	9
Tips for Navigating in the Programming Mode	Page	9
<b>Programming Table</b>	Page	8
<b>Programming the Satellite Brewer</b>		
Brew Settings Menu	Page	10
Time Functions	Page	11
Machine Settings	Page	12
Factory Settings	Page	13
Calibration instructions	Page	14
Brew and Pre-Infusion Capabilities	Page	15
Pulse Feature Operation	Page	16
Water Delivery (Outflow) Rates:	Page	16
Pulse Examples	Page	17
<b>Test Program</b>	Page	18

## SPECIFICATIONS

### ELECTRICAL SPECIFICATIONS SATELLITE BREWER

MODEL	WATTS	VOLTS	HZ	CIRCUIT REQUIRED
9511J	3890	200V 3 PHASE	50/60	3 + ground WIRE TO CIRCUIT BREAKER

## OPERATING INSTRUCTIONS – SATELLITE BREWER

### 1. Energizing the Brewer

Before connecting to the electricity, make sure the Satellite Brewer has been properly connected to the water supply. When electricity has been connected to the unit, there will be a momentary flash of the power light. Turn the brewer on by depressing the ON/OFF switch. The brewer will start to fill the tank with the message on the screen “**filling...**”. With the proper water supply the tank should be filled in about 2½ minutes. Once filled, the heating element will come on until the proper tank temperature has been reached, (which will take about 20 minutes on 120-Volt models or about 12 minutes on 120/240 Volt models).

### 2. Brewing (PTB™ - Precise Temperature Brewing™)

#### To over-ride the Brew Wait

**Mode**, press and hold the BREW switch for 3 seconds when the brewer is in Brew Wait mode (i.e. when brew light is flashing). The brew will proceed immediately regardless of water temperature. This feature should only be used when testing water volume, otherwise the brew will proceed with the water below the precise brew temperature. (The Brew Wait option can also be permanently disabled in the programming mode.

Consult the *Programming* section in this manual.)

In regular operating mode, the Satellite Brewer maintains the tank temperature within +/- 1°F of the brew temperature. Normally this will mean that a brew will be started as soon as the BREW switch is depressed. However, there may be a slight delay if the BREW switch is depressed immediately after a brew has been completed (notably on 120-volt models). If the tank temperature is below the brew temperature, the brew will be delayed going into the “Brew Wait” mode, with the brew light flashing, and the message on the screen “**heating...**”. As soon as the correct temperature is reached the brew will commence with the brew light on continuously during the brew. The time remaining in the brew will count down on the display. During the brew if the BREW switch is depressed, it will be ignored. Only if the brew is complete can another brew be started.

Note: the following safety features have been incorporated to prevent multiple unattended brews:

- When the “Brew” light is on or flashing, repeated pressing of the BREW switch will be ignored, (there will be a beep each time it is pressed). A Brew will only be activated or put in Brew Wait when the “Brew” light is off. (If BREW switch is pressed and held 3 seconds during “Brew Wait” the brew will proceed immediately.)
- \* Only one brew can be stored in “Brew Wait” at a time.

### 3. Brew Cancel

To cancel a brew in progress, or a brew waiting, depress the CANCEL switch: two beeps will sound and the “Brew” light will go out. Water flowing to the brew basket will be stopped immediately, but, if there is already water in the brew basket, it will take a few moments to drip through as coffee.

### 4. Normal Operation (Non Brewing):

When the unit is not brewing, the Satellite Brewer maintains the water temperature at the Precise Temperature for Brewing™ (PTB™). The heating element will cycle on and off automatically to maintain this temperature.

## OPERATING INSTRUCTIONS (continued)

To view the water temperature on the screen, the Satellite Brewer must be ON, and not brewing or in the filling mode. Press and hold the 4th key, and depress the 6th key. The actual water temperature will be displayed for 3 seconds.

### 5. View Water Temperature in Tank

The Satellite Brewer maintains a count of the number of completed brews for a 7-day period. To access the count, turn the brewer OFF. In the OFF mode, press and hold the CANCEL key for 3 seconds. The current day and brew count will be displayed. Depress the ON/OFF key repeatedly to view each preceding day. When all 7 days have been displayed a 7-day total will be displayed. If you wish to exit the daily brew count before viewing all of the days, press CANCEL key.

### 6. Daily Brew Count

To turn the brewer OFF, press the ON/OFF switch: 2 beeps will be heard and the brewer will be turned OFF, indicated by all lights being off, (including any warmer plates on decanter brewers). To turn the brewer ON, press the ON/OFF switch: 2 beeps will sound, all lights will flash once, then the "Power" light will remain on, (the "Heat" light may come on if water temperature is too low).

### 7. ON/OFF – Non Automatic Timer

The factory programmed Satellite Brewer has the automatic timer turned off. To set the automatic timer, refer to the *Programming* section in this manual, "Time Functions" Menu. If the Automatic Timer feature is programmed off, the brewer can be turned on and off by depressing the ON/OFF switch, as noted above.

### 8. ON/OFF – Automatic Timer Feature

- \* When the Automatic Timer feature is programmed ON the Satellite Brewer will turn on and off automatically, at a programmed time, Monday to Friday; with a separate on and off programmed time schedule for Saturday and Sunday.
- \* Temporarily Overriding the Automatic On/Off function. While in the automatic timed OFF mode the brewer can be started by depressing the ON/OFF switch. The brewer will remain on until the automatic programmed OFF time, when it will turn off and resume normal automatic timed functioning. Similarly, if turned OFF during the automatic timed ON mode the brewer will remain OFF until the next programmed ON time, when it will turn on and resume normal automatic timed functioning.

If the Satellite Brewer automatic timer is OFF (the factory setting) and power is disconnected, the brewer will start up when power is restored, in the mode it had been in prior to the power disconnect. If the Satellite Brewer has the timer setting ON and power is disconnected, the brewer will start up in the mode that it should be in at the time the power is restored.

### 9. Automatic Start-Up in Previous Mode

## OPERATING INSTRUCTIONS (continued)

### 10. Brew Volume - Viewing Programmed Brew Volume

The Satellite Brewer can have up to 4 different brew volumes. When a volume other than the standard, or first brew volume, is selected, the Satellite Brewer will complete that volume and then automatically reset to the standard, or first brew volume.

### 11. Changing Brew Volume

Press the required volume key. If a volume is programmed for that key, the volume will be displayed on the screen for 3 seconds and the light above the key will be turned on. If no volume is programmed, the previous light will remain on and the screen will read "no volume prog" (i.e. no volume programmed). When a brew volume other than the 1st, or standard brew volume is selected, the Satellite Brewer will complete the brew then return to the 1st or standard brew volume automatically.

### 12. Clock Battery Backup of Time

The Satellite Brewer has a battery backup system which will maintain the proper time during power failures, or when the brewer is unplugged (even for very prolonged periods of time). Normally there will not be a need to set the time except for Daylight Saving Time changes, or moving the brewer to different time zones.

### 13. Changing Day and Time

To change time, turn the Satellite Brewer off. Press the 2nd key twice followed by the 1st key twice to access the time change mode, (i.e. press CANCEL, CANCEL, BREW, BREW). In the time change mode the screen will read "Day:" followed by the current day setting. Use the 6th key to advance the day, or the 5th key to reverse. When day has been properly set, press the 3rd key. The screen will now read "Time:" with the set time on the screen, the hour and am or pm flashing. Use the 5th key to go back or the 6th key to advance the hour, making sure that the am or pm is correct. When the hour and am/pm is correctly set, press the 3rd key, and the screen will read "Time:" with the set time on the screen, minutes flashing. As previously, use the 5th or 6th keys to adjust the minutes, and press the 3rd key when complete. The Satellite Brewer will return to the off mode. (Changing time can also be done in the regular programming mode.)

### 14. After Hours™

Consult the *Programming* section in this manual to set the After Hours™ mode. The factory programming has the After Hours™ mode turned OFF.

The After Hours™ can be programmed to come on from 1 to 6 hours after the last brew. When the Satellite Brewer goes into the After Hours™ mode, the water in the tank will be allowed to drop from the normal brewing temperature and will reheat less frequently – this feature saves energy and extend component life. While in the After Hours mode, the power light will flash continuously. When the BREW switch is pressed the Satellite Brewer automatically reverts back to normal operation, heating the water to the Precise Temperature for Brewing™ (PTB™), before starting the brew. (The power light will be on continuously and the Brew light will flash until the correct water temperature is reached.)

## OPERATING INSTRUCTIONS (continued)

The Satellite Brewer factory programming has the Countdown Quality Timer™ turned OFF. Consult the *Programming* section in this manual to activate the Countdown Quality Timer™ feature:

- \* A Countdown Quality Timer™ is available for the last brew. The timer can be set from 20 to 120 minutes (in 5-minute increments). When a brew is completed, the countdown time will begin. At the end of the selected time there will be two beeps and the volume light will flash continuously until reset. When a new brew is started the timer will be reset automatically.

### 15. Countdown Quality Timer™

If a particular brew volume has utilized the pulse or pre-infusion option, that volume will be displayed with an asterisk (\*) after the volume. As an example "Volume#2\*" would indicate that the second programmed brew volume has utilized the pulse or pre-infusion program options.

### 16. Pulse or Pre-Infusion Volume Options

To set these features, refer to the *Programming* section in this manual, Brew Settings Menu.

If the Keypadlock™ feature is activated, there will be no response by the brewer when the keys are depressed (except for the beep after a key is depressed). To temporarily "unlock" the keypad, press and hold the CANCEL key for 6 seconds. A beep will be heard indicating the keypad is now "unlocked"; a brew can be initiated, etc. The keypad will remain unlocked until the brew is completed, then automatically return to keypadlock™ mode. If a brew is not initiated 60 seconds after "unlocking", the system will time out and return to the "locked" position.

### 17. Keypadlock™

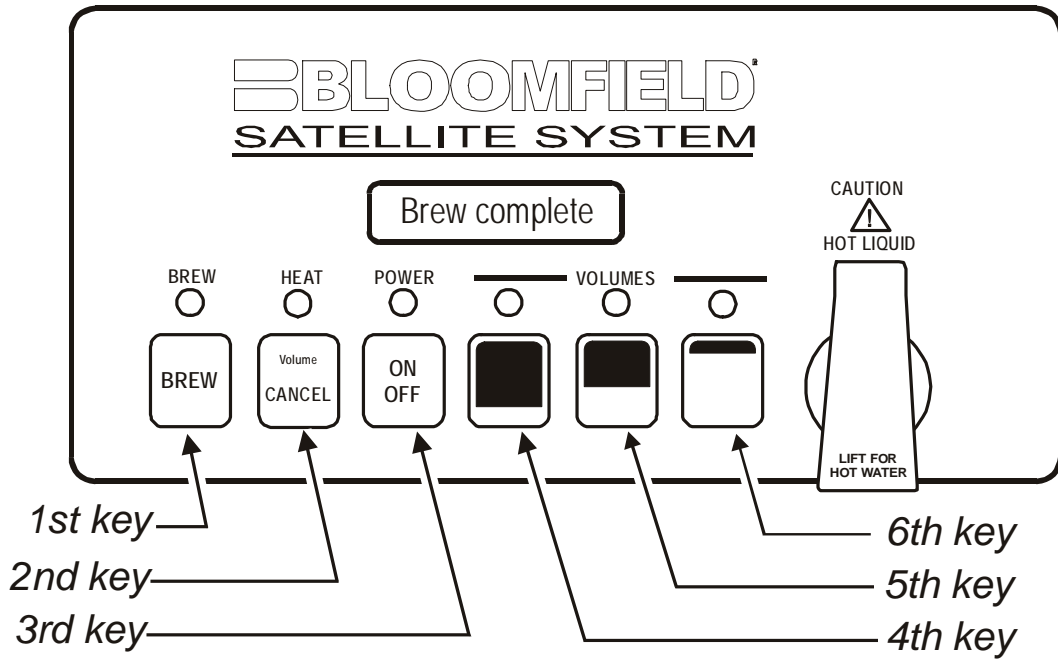
To set the feature refer to the *Programming* section in this manual, Machine Settings Menu. This feature is OFF in the standard factory settings.

To view filter statistics, turn the brewer off. Press and hold the 6th key, and touch the 3rd (ON/OFF) key. Total Water Volume (TotalVol.) Touch the 3rd key again to view the filter life (FltrLife:). The percentage of the filter that has been used will be displayed. (If the filter option is used, the filter life volume needs to be entered in the program – see *Programming* section in this manual, Service & Counters Menu.)

### 18. View Filter Statistics:

# PROGRAMMING INSTRUCTIONS

## CONTROL PANEL KEYS



KEY # From Left	KEY NAME	PROGRAM FUNCTION
1	BREW	<b>MENU</b> Advance to next menu
2	CANCEL	<b>EXIT</b> Programming Mode
3	ON/OFF	<b>ITEM</b> Select & Advance to next item
4	1/2 GALLON VOLUME	Used for Pulse/Pre-infusion only
5	1 GALLON VOLUME	<b>DECREASE (-)</b> Value
6	1-1/2 GALLON VOLUME	<b>INCREASE (+)</b> Value



## PROGRAMMING INSTRUCTIONS (continued)

1. Turn the brewer off with the ON/OFF Key.
2. Press and hold for 3 seconds the 4th and 6th Keys (from the left) until the LCD reads "BREW SETTINGS"; the 4th key is 1/2 Gallon Volume and the 6th key is 1-1/2 Gallon Volume. The LCD will show "BREW SETTINGS" indicating that you are at the first menu as outlined on the attached table, "Programming Table". Once in the programming mode the keys on the front panel can be used to perform the functions outlined.

### ACCESS PROGRAMMING MODE

1. Advance through all of the Menus and wraparound to the first MENU again, by continually depressing the 1st key – BREW (MENU).
2. To review Items in a specific Menu, press the 3rd key – ON/OFF (ITEM) at the requested Menu to begin reviewing all or some of the ITEMS in that MENU:
  - If you do not need to review the ITEMS in the MENU, press the 1st key – BREW (MENU) to advance to the next MENU or press the 2nd key – CANCEL (EXIT) to exit programming.
  - You must review/modify ITEMS in the sequence outlined in the table within each MENU, by pressing the 3rd key – ON/OFF (ITEM). If you need to go back to an ITEM, advance through the menus by pressing the 1st key – BREW (MENU) until you get back to the appropriate MENU, then press 1st key – ON/OFF (MENU) to get to the required ITEM.
3. To Increase, Decrease, or Change settings when in programming mode press the 5th ("–") and 6th ("+") keys. If the key is pressed and held the changes to a value will advance faster.
4. To change a value, such as brew temperature, navigate to Brew Temperature ITEM in the Brew Settings MENU. Increase or decrease the setting, and press the 3rd key – ON/OFF (ITEM) to commit the change and advance to the next Item. To advance to the next MENU press the 1st key – BREW (MENU), or exit programming by pressing the 2nd key – CANCEL (EXIT).
5. To Exit Programming, you can press CANCEL (EXIT) at any time. While in the programming mode, if no entries are made for 2 minutes the Satellite Brewer will automatically exit programming.
6. To re-enter programming, ensure brewer is off, then press and hold 4th key and 6th key for 3 seconds, until "Brew Settings" appears on the screen.

### TIPS FOR NAVIGATING IN THE PROGRAMMING MODE

# PROGRAMMING TABLE

Menu	Item	Description	Range		Factory Settings & Defaults	
			KEY #5 --	KEY #6 +		
<b>1. BREW SETTINGS</b> (To access Program Table: Turn brewer OFF, press & hold 4 <sup>th</sup> & 6 <sup>th</sup> keys for 3 seconds until "Brew Settings" appears.	Water Temp.:	Actual water temperature is displayed (°F or °C).			No Default	
	Brew Temp.:	Brew Temperature. (Must be 5°F below Max Temp - Increase Max Temp in Machine Settings if necessary)	185°F - 205°F 85°C - 6°C		93°C	
	Brew Vol.1: TotalValve: BypassDly BypassTime DripoutTime:	1st Brew Volume in Liters Time brew valve is open in seconds Time after start of brew before bypass valve is opened in seconds Total time bypass valve is open in seconds Number of seconds after brew valve turned off for all coffee to drip out	0 - 6.0L		1.9 L 141 sec 0 sec 0 sec 138 sec	
	Brew Vol.2: TotalValve: BypassDly BypassTime DripoutTime:	2nd Brew Volume in Liters Time brew valve is open in seconds Time after start of brew before bypass valve is opened in seconds Total time bypass valve is open in seconds Number of seconds after brew valve turned off for all coffee to drip out			3.8 L 282 sec 0 sec 0 sec 200 sec	
	Brew Vol.3: TotalValve: BypassDly BypassTime DripoutTime:	3rd Brew Volume in Liters Time brew valve is open in seconds Time after start of brew before bypass valve is opened in seconds Total time bypass valve is open in seconds Number of seconds after brew valve turned off for all coffee to drip out			5.7 L 277 sec 0 sec 277 sec 200 sec	
	Pulse Brew: Initial Valve Pulse Delay Pulse Valve	Pulse Brew. To access Pulse Brewing Settings, terminate Brew Vol with 4 <sup>th</sup> key.			Pulse OFF all volumes	
	<b>2. TIME FUNCTIONS</b>	After-Hours:	After Hours mode off (0), or with delayed hours (1 to 6 hours)	0 (off)/1 -6 hours		0 - OFF
		Quality Time:	Countdown Quality Timer. Off (0) or On (20 - 120)	0, 20 - 120		0 - OFF
		Timer:	To activate the Automatic Timer feature	ON - OFF		OFF
		Wkday on-Hr	Set Hour/Minute for Brewer to turn on and off on weekdays.	00:00 AM/PM		07:00A
		Wkday on-Min		00:00 AM/PM		07:00A
		Wkday off-Hr		00:00 AM/PM		07:00P
		Wkday off-Min	Set Hour/Minute for Brewer to turn on and off on weekends. (Set On & Off to the same time to force brewer to remain off for the entire weekend.)	00:00 AM/PM		07:00P
		Wkend on-Hr		00:00 AM/PM		07:00A
Wkend on-Min		00:00 AM/PM			07:00A	
Wkend off-Hr		00:00 AM/PM			07:00P	
Wkend off-Min			00:00 AM/PM		07:00P	
Day:	Set Day	Mon - Sun			No Default	
Time: -- Hour	Set Hour & AM/PM	1 - 12 AM/PM			No Default	
Time: -- Min	Set Minute	0 - 60			No Default	

## PROGRAMMING TABLE (continued)

Menu	Item	Description	Range		Factory Settings & Defaults
			KEY #5 -	KEY #6 +	
3. SERVICE & COUNT(ERS)	TotalVol:	Displays total volume of water in Gallons or Litres	000000	G/L	No Default
	BrewCycs:	Total number of brew cycles performed.	000000		No Default
	FltrLife:	Filter Life. "0" to disable. 100 gal. Increments.	0 --	10000	0 Gal.
	ResetTotals:	Resets volume and cycles to zero.			No Default
	Srv:	Service phone number displayed in error mode.	CallForService		No Default
4. MACHINE SETTINGS	Temp.Unit:	Temperature Unit. Choose temperature in °F or °C	F or C		°C
	Vol.Unit:	Volume Unit. Choose volume in oz or L	Oz or L		Oz
	KeyPadLock:	Locks Keypad. When "ON", hold CANCEL.8 secretary. To unlock.	On or Off		Off
	MaxWTTemp.:	Maximum Water Temperature. Must be 5° over Brew Temp.	195 - 210 (91 - 99)		98°C
	Brew Mode:	Not Applicable			
	Brew Wait:	Delay Brew until Precise Brew Temp is reached.	Y or N		Y
	Load Defaults:	To re-load factory settings.	Y or N		Y
5. FACTORY SETTINGS (Hidden Menu - to access, go to Machine Settings, then press & hold 4 <sup>th</sup> & 6 <sup>th</sup> keys for 3 seconds until "Factory Settings" is displayed.)	InflRate:	Inflow Rate. Expressed in gallons per minute. Required in calculating total volume of water in Service & Counters menu	0.00 - 1.00	G/M	2.27 L/M
	Calibration:	To access, depress 4 <sup>th</sup> key. Enables calibration of probe to independent thermometer. (Displays current temperature +/- correction value.)	+/-	20 °F	0°C
	TotalVol:	Independent volume total -- not resettable	000000		No Default
	BrewCycs:	Independent cycles counter -- not resettable	000000		No Default
	ValveDelay:	Time delay after water goes below probe to open valve (Factory set to "0")	0 - 10		0
	Timer Status:	If Timer is ON: 1 = Manual OFF prevails over Timer 2 = Timer prevails over ON/OFF (This is the Factory Setting)	1 or 2		2

## PROGRAMMING THE SATELLITE BREWER

### BREW SETTINGS MENU

- **“Water Temp:”** is actual water temperature in the tank.
- **“Brew Temp:”** is desired brew temperature. This temperature +/-0.5°C will be maintained in the tank. Adjust by pressing 5th or 6th keys. The brew temperature cannot be set any higher than 2.4°C below the Maximum Water Temperature, which is factory set at 98°C. This means maximum brew temperature will be 96°C. If a higher temperature is required, first increase the Maximum Water Temperature in Machine settings (maximum is 99°C), then increase brew temperature (maximum brew temperature is 96°C if Maximum Water Temperature is increased to 99°C).
- **“Brew Vol#1:”**. This number will be displayed on the LCD when volumes are being changed, however, this number will not actually determine the brew volume – the Valve Time setting determines volume.
- **Pulse Brew.** To access the pulse or pre-infusion programs, terminate Brew Vol with the 4th key. See Pulse Brew details outlined on page 18.
- **“Total Valve:”**. This is the number of seconds the brew valve will remain open and determines total water volume. The dump valve will allow 1 ounce of water about every 3 seconds.
- **“ByPassDelay:” – By Pass Delay Time.** This is the number of seconds after the brew has started to delay before allowing the hot water to begin mixing with the coffee.
- **“ByPassValve:” – By Pass Valve Time.** After the By Pass Delay, this is the number of seconds which the bypass valve will be turned on.
- **“DripOutTime:”** - This is the number of seconds after the dump valve is closed that is required until all of the water flows through the brew basket. Generally, 60 seconds is required for decanter and airpot/thermal brewers. If heavier weights of coffee or tea are used, this number may need to be increased.

Additional brew volumes #2 through #4 can also be programmed if required. If the Brew Vol# is left at “0” the program will advance to the next Brew Vol# without going through the Valve Time and Drip Out Time details.

## PROGRAMMING THE SATELLITE BREWER (continued)

- **“After Hours:”** can be turned off by setting to “0”. If it is to be turned on use the 5th or 6th key to select the number of hours of delay after last brew before After Hours™ is activated. When After Hours™ is activated, the Satellite Brewer will allow the water temperature to drop by 9°C before re-heating.
- **“Quality Time:” – Countdown Quality Timer™.** This can be turned off by setting to “0”, or set from 20 minutes to 120 minutes, 5 minute increments using the 5th and 6th keys: If the Quality Timer is activated, the volume LED will flash when the countdown time has been reached if another brew has not been started before the time expires.
- **“Timer:”** Turn the timer on if automatic startup and stop is required. Time for the Satellite Brewer is maintained with a battery backup system that will last up to 20 years. This system also handles power fluctuations by maintaining the power time during power outages. When setting times, make sure that the **AM** or **PM** is set properly to activate the timer at the right time. Set the time for on/off as required.
- **Weekend “OFF” Setting.** To set the brewer to turn off for the weekend, set the start and stop time at the same time (i.e. factory setting has weekend time on and off at 7:00am that will turn it off for the weekend.)
- **“Day:”** Set the day by using the 5th and 6th keys.
- **“Time:”** Set Hour. Hour and pm/am will flash, allowing the proper hour to be set.
- **“Time.”** Set Minute. Minutes will flash on this setting, allowing proper hour to be set.
- **“TotalVol:” – Total Volume.** Indicates total water volume processed by the brewer.
- **“Brew Cycs:” – Brew Cycles.** Displays total number of brew cycles since last reset.
- **“FltrLife:” – Filter Life.** If a filter is used input the number of gallons of capacity, the indicator increments 100 gallons at a time.
- **“Reset Totals:”.** To clear out totals for volume and brew cycles.
- **“Srv” – Service Number.** Displays the service phone that will display when a diagnostic message is on the LCD. Can only be loaded with the PC upload/download program.

### TIME FUNCTIONS

Timer setting sequence:  
Wkday on: Weekday ON  
(HOUR & AM/PM)  
Wkday on: Weekday ON  
(MINUTE)  
Wkday off: Weekday OFF  
(HOUR & AM/PM)  
Wkday off: Weekday OFF  
(MINUTE)

Weekend settings are similar to the above.

When using the automatic timer be sure to allow 20-30 minutes for the Satellite Brewer to reach proper temperature from the time it is turned on.

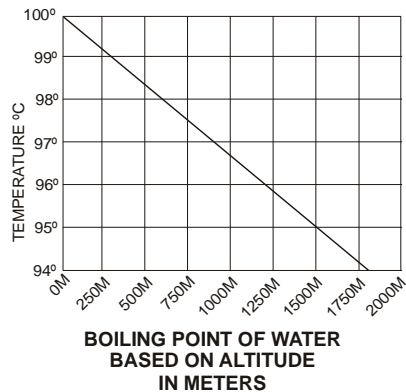
The Satellite Brewer battery backup system maintains the proper time except while in the Time Functions menu. If a prolonged period of time is spent in this menu, it will be necessary to adjust the time before ending programming.

The day and time can also be set without going into the programming mode. See “Changing Day and Time” in the Operating Instructions section of this manual.

### Service & Counters

## PROGRAMMING THE SATELLITE BREWER (continued)

### MACHINE SETTINGS



- **“Temp. Unit:” – Temperature Unit.** Set to “F” for °F and “C” for °C.
- **“Vol. Unit:” – Volume Unit.** Set to either “oz” for ounces or “L” for liters.
- **“KeypadLock:”** Turn to “On” or “Off”. If “On” the keypad switches can only be activated by pressing and holding the CANCEL key for 6 seconds. Then the keypad will be active until a brew has been completed. Or if a brew is not started the keypad will revert to the locked mode after 60 seconds.
- **“MaxWt.Temp:” – Maximum Water Temperature.** The maximum water temperature is factory set at 98°C degrees, but can be adjusted up as high as 99°C. The brew temperature cannot be set any closer than 2.4° below the maximum temperature. Maximum temperature should be set at least 0.9°C degrees below the boiling point. The Satellite Brewer will go into the “overheat error” if the temperature in the tank is sensed to be at or above the Maximum Water Temperature level. Therefore in higher altitude locations, adjust the Maximum Water Temperature down. See Boiling Point Chart at left.
- **“Mode:” – Operating Mode.** Not applicable for Satellite Brewers.
- **“Brew Wait:”** The Precise Temperature Brewing feature can be overridden by setting Brew Wait to “N” for No. By doing this, the Satellite Brewer will start a brew whenever the brew switch is depressed. There will be no delay to heat to the proper temperature. This is not the recommended setting. The Brew Wait is factory set at “Y” for yes. In this mode the Satellite Brewer will only start a brew at the Precise Brew Temperature.
- **“Load Defaults?”** Reloading of default settings will reset many of the programmed settings to those outlined in the programming table. In the table those items with “No Default” noted in the Default column would not be reset when defaults are re-loaded. Where a value is noted, this would be the re-loaded value if defaults are loaded. Re-loading of defaults should be used only if major programming problems have occurred and it is necessary to return to factory settings.

## PROGRAMMING THE SATELLITE BREWER (continued)

- **“InflRate:”** – Inflow Rate. The inflow rate is factory set at 2.6 liters per minute. This value is required to calculate the water volume. Generally the 2.6L setting will be quite accurate unless there is unusually low or high water pressure and volume, in which case the Inflow Rate can be changed.
- **“Calibration”**. To access the calibration program press the 4th key when “Calibration” is on the screen. The probe is factory set and should not need resetting, unless the controller board or probe is changed. See Calibration Instructions following the Factory Settings menu items for detailed instructions.
- **“TotalVol:”** – Total Volume. Total water volume is stored in the Factory Settings menu as well as in the Service & Counters menu. This total is not re-settable.
- **“BrewCycs:”** – Brew Cycles. Total brew cycles is stored in the Factory Settings menu as well as in the Service & Counters menu. This total is not re-settable.
- **“InletValvTime:”** – Inlet Valve Time. The inlet valve time is important to gaining proper brew volume in varying water pressure and flow conditions. When the water in the tank drops below the liquid level sensor, the inlet valve will come on and fill to the sensor (which will take a few seconds due to meniscus) then continue filling for the number of seconds programmed for the INLET VALVE TIME. The factory setting is 3 seconds that will cover most conditions. However, if water pressure and flow is low increase the value to 6 or 7 seconds. Conversely if pressure and flow are high decrease the setting to 1 or 2 seconds. See Adjusting “Inlet Valve Time – Determining Pressure and Flow” below for more details on how to get the proper setting for specific water conditions.
- **“Valve Delay”**. The valve delay time is the amount of time to delay turning on the inlet valve after water has dropped below the liquid level sensor. Factory setting for this is “0” seconds.
- **“Timer Status”**. If the timer (in the Time Functions Menu) is on, this setting can be used in two different ways.  
*Timer Status 2:* (Factory Setting.) If set to “2” the timer will automatically turn the machine on and off. If the brewer is turned off manually it will remain off until the next scheduled on time; or if it is turned on manually it will remain on until the next scheduled off time. (Timer overrides manual ON/OFF).  
*Timer Status 1:* If set to “1” the timer will automatically turn the machine on and off, until the “OFF” key is used to turn it off. The machine will then remain off until it is manually turned on. Timer status 1 should only be used in circumstances where the machine will not get turned off accidentally. (Manual OFF overrides Timer)

### FACTORY SETTINGS

The factory settings menu can only be accessed by going into the programming mode, and pressing the 1st key until “Machine Settings” is on the screen, then press and hold the 4th and 6th keys for three seconds until the screen reads “Factory Settings”. Qualified personnel should only make changes to these settings.



## PROGRAMMING THE SATELLITE BREWER (continued)

### CALIBRATION INSTRUCTIONS:

The probe has been factory calibrated. If a controller board is changed it is recommended that the previous calibration be checked and entered on the new board. However this may not always be possible, or if a new probe is used, calibration should be completed as follows:

- Turn brewer on and allow to heat to proper temperature, and the heat light will go out.
- Turn brewer off.
- Access the programming mode, go to *Factory Settings*, go to *Calibration* and press the 4th key to access calibration.
- Using an accurate thermometer, determine the actual tank temperature by measuring the temperature of the water coming out of the faucet. It is important to run the water over the thermostat long enough to get a proper reading. (An alternate method of establishing water temperature is to remove the top cover of the brewer, then pull out the level sensor. Insert the thermometer into the brewer. Allow time for the thermometer temperature to stabilize.)
- Once the actual tank temperature has been established, look at the values on the screen. As an example, it may read "94C Corr. + 0" This would indicate that the water temperature in the tank is 94°C with no correction (or calibration) of the probe. If the actual temperature according to the thermostat was:
  - HIGHER by 3°F (i.e. 95°C in the example), press the 6th key 3 times until the screen reads as follows: "95C Corr. + 3".
  - LOWER by 3°F (i.e. 92°C in the example), press the 5th key 3 times until the screen reads as follows: "92C Corr. - 3".
- Make sure the temperature on the left of the screen agrees with the actual temperature of the water determined with an accurate thermostat. Once this has been completed the Satellite Brewer will maintain the calibrated setting.
- Once calibrated press the 3rd key to continue in the Factory Settings menu, press the 1st key to return to Brew Settings menu, or press the 2nd key to exit programming.



## PROGRAMMING THE SATELLITE BREWER (continued)

### Applications:

- Pre-infuse (or Pre-soak) the Bed of Coffee. The brew valve can be opened for a short period of time to allow the bed of coffee or tea to be pre-infused. After a delay while the pre-soaking is taking place, the brew valve can be opened to start and complete the brew.
- Extend Contact Time With the Coffee. The brew valve can be programmed to “pulse” by opening and closing for programmed periods during the brew. This capability will allow for longer contact with the coffee if higher extraction rates are required.
- Prevent Brew Basket Overflow (or Flooding). The pulse feature allows the delivery time of the water to be extended. Overflow problems can also be experienced if particularly fine grind coffee is used. The Satellite Brewer can be programmed to extend the delivery of the water over a longer period of time, thus preventing any overflow problems.

### PULSE BREW & PRE-INFUSION CAPABILITY

### To Access the Pulse Feature:

- Select the Brew Volume that will be using the “pulse” brew feature. (i.e. go to selected volume — BrewVol1, 2, 3 or 4 in the Brew Settings menus.)
- With the selected volume on the screen (BrewVolX:), change volume if necessary (must not be “0”) and press the 4th key to go to the Pulse Programming options (as opposed to pressing the 3rd key which would bypass Pulse Programming).
- The first three menu items below will appear in this order (followed by “Total Valve” and “Drip Out Time” which are used for both the pulse and regular brewing mode):
  - Init Vlv Time: Initial Valve Time (seconds) to open before pulse cycle(s) begin.
  - Pulse Delay: Number of seconds valve is closed beginning pulse cycle(s).
  - Pulse Valve On: Number of seconds valve is open during pulse cycle(s).
  - Total Valve: Total number of seconds valve is to be open (pulse + initial).
  - Drip Out Time: Time after valve is closed before brew is complete.

## PROGRAMMING THE SATELLITE BREWER (continued)

### PULSE FEATURE OPERATION:

The pulse feature will be activated if it has been accessed as above, and values have been programmed into the 3 pulse brew items.

- When the pulse brew begins, the brew valve will be opened for the number of seconds programmed for “Initial Valve Time” (Init Vlv Time).
- The valve will then close for the number of seconds in “Pulse Delay”, then open for the number of seconds in “Pulse Valve On”.
- The pulse cycle (Pulse Delay plus Pulse Valve) will be *repeated continuously until the brew valve has been opened for the “Total Valve” Time.*
- The Satellite Brewer will calculate the number of seconds for the full brew and how many pulse cycles are required to complete the brew. (If a final partial “Pulse Valve On” is required this will also be calculated automatically.)

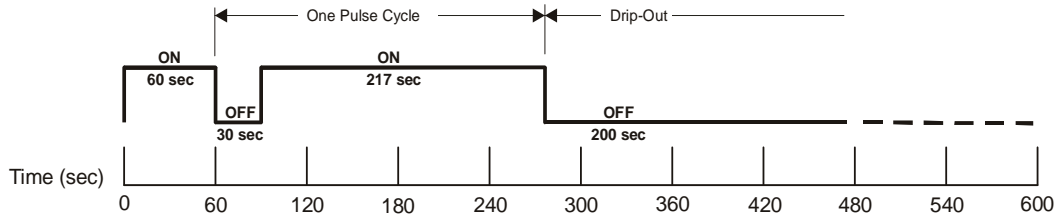
### WATER OUTFLOW (DELIVERY)RATES:

The outflow rate of water from the sprayhead is required to calculate valve time for different volumes. Sprayhead outflow rates are based on the standard 1.9 Liter coffee brew requiring 141 seconds of the brew valve being open. This is an outflow rate of 0.01Liter per second. To calculate Total Valve time the ounces required should be divided by 0.01L / sec. Each brewer may have a slightly different flow rate based on whether the brewer is level, scale build up in lines, etc. Minor adjustments may be required to get precise volume. Examples of different volumes and valve times are as follows:

	Brew Volume	Brew Valve	Bypass Valve	Total Volume
Satellite Brewer	1.9 Liter	1.9L / 141 sec.	0	1.9L
	3.8 Liter	3.8L / 282 sec	0	3.8L
	5.7 Liter	3.58L / 277 sec.	1.92L / 277 sec.	5.7L

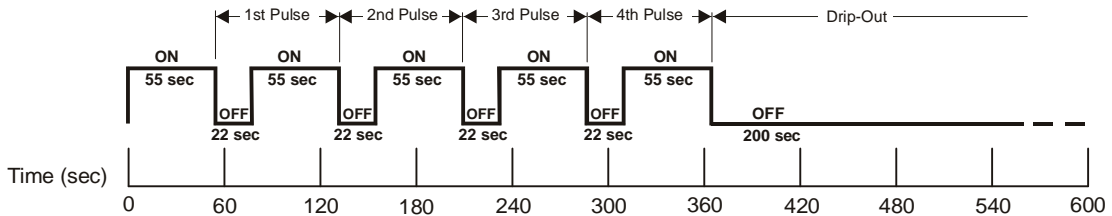
## PROGRAMMING THE SATELLITE BREWER (continued)

### Pulse Feature Examples SATELLITE BREWERS:



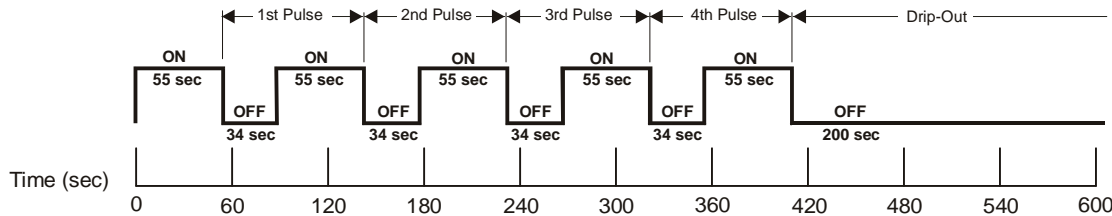
1. **Pre-Infuse 5.7 Liter Brew:** Total valve time of 277 seconds required for 5.7L of water.

· Init Vlv Time:	60 sec.	Total Valve:	277 sec.
· Pulse Delay:	30 sec.	Total Delay	30 sec.
· Pulse Valve On:	217 sec.	<u>Drip Out</u>	<u>200 sec.</u>
· Total Valve:	277 sec.	Total Brew	507 sec.
· Bypass Delay	20 sec.		
· Bypass Valve	277 sec.		



2. **Extend Contact Time on 5.7 Liter Brew:** Total valve time of 275 seconds required for 5.7L of water. Extend contact time by introducing 4 pulse cycles, each with a 22 second delay.

· Init Vlv Time:	55 sec.	Total Valve	275 sec.
· Pulse Delay:	22 sec.	Total Delay	88 sec.
· Pulse Valve On:	55 sec.	<u>Drip Out</u>	<u>200 sec.</u>
· Total Valve:	275 sec.	Total Brew	583 sec.
· Bypass Delay	30 sec.		
· Bypass Valve	275 sec.		



3. **Prevent Brew Basket Overflow:** Total valve time of 275 seconds required for 5.7 L of water. Extend the delivery over a longer period of time, say 10 minutes to prevent overflow of brew basket, by having 4 valve delay periods. Initial Valve time is arbitrarily set at 55 seconds. Program the delay required 136 seconds over 4 pulse cycles, each with a delay of 34 seconds. To calculate the Pulse Valve time: Total Valve Time minus Initial Valve Time divided by 4 pulse cycles.

· Init Vlv Time:	55 sec.	Total Valve	275 sec.
· Pulse Delay:	34 sec.	Total Delay	136 sec.
· Pulse Valve On:	55 sec.	<u>Drip Out</u>	<u>200 sec.</u>
· Total Valve:	275 sec.	Total Brew	611 sec.
· Bypass Delay	30 sec.		
· Bypass Valve	275 sec.		

## TEST PROGRAM

### TEST PROGRAM

#### Entering Test Program Mode:

- Make sure to have power to the system.
- Turn the brewer off.
- In the Off mode, hold down the 4th key, then the 3rd key (ON/OFF). Keep holding both keys down for approximately 3 seconds.

#### Exiting Test Program Mode:

To exit the Test Program press the 2nd key (Cancel) at any time, except during the key switch tests, numbers 4 through 9 below. Alternately, complete the full test and the E-Max will return to the off mode.

#### Test Program Mode Details:

1. **Software (Firmware) Revision** will be displayed  
Example: MFW275 Rev3.4. Press ON/OFF to advance.
2. **Data revision** will be displayed  
Example: Data Rev2.1. Press ON/OFF to advance.
3. **RTC—Real Time Clock** time will be displayed (24 hour version) i.e. HH:MM:SS. Ensure that the time is changing in seconds to confirm RTC proper functioning. Press ON/OFF to advance.
4. **Switch Test 1.** Press 1st switch. 30 seconds allowed to press 1st switch.
5. **Switch Test 2.** Press 2nd switch. 5 seconds allowed to press switches 2 through 6
6. **Switch Test 3.** Press 3rd switch.
7. **Switch Test 4.** Press 4th switch.
8. **Switch Test 5.** Press 5th switch.
9. **Switch Test 6.** Press 6th switch.  
If a key or switch toggle is not detected within the times allowed then the “Switch Error” message will be displayed followed by two beeps. If an error occurs with the correct key pressed then the switch or board has failed the test.
10. **LED’s** will be tested individually, beginning with the first on the left and proceeding through all six LED’s in one-second intervals. Screen will read “Testing LED’s”. When all lights have been tested press ON/OFF to advance.
11. **Interlock (Satellite)**
12. **Inlet Off.** Press ON/OFF to turn inlet valve on and the screen will read “Inlet On”. Then press ON/OFF again to turn inlet valve off and proceed to next item.

13. **Dump Valve Off.** As above press ON/OFF to first turn valve on then again to turn it off and proceed to next item.
14. **Heater Off.** Press ON/OFF to turn tank heating element on, then press ON/OFF to turn it off and proceed to next item.
15. **By Pass Valve Off.** Press ON/OFF to first turn valve on then again to turn it off and proceed to next item.
16. **Probes XXX XXX**
  - The **left number** determines whether the **WATER-sensing probe** is in contact with water. A number of "0" (or close to 0) means that water is in contact with the probe, while a number of 255 (or close to 255) means water is not in contact with the probe.
  - The **right number** represents what the **TEMPERATURE-sensing probe** reads. The table at left is an approximate correlation between the value and the temperature the probe is sensing.
  - **NOTE:** A number less than 10 would indicate the probe is not properly connected to the board, while a number higher than 155 indicate a defective probe.
17. **Test Done.** Indicates completion, press ON/OFF to reset controller. The controller should restart with the message "BLOOMFIELD", then return to the off mode.

RIGHT NUMBER	APPROX. WATER TEMP.
≤ 10	Probe not connected
20	35°C
25	39°C
30	43°C
↓	↓
120	85°C
125	88°C
130	90°C
135	92°C
140	95°C
≥ 155	Defective probe







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