

# NEWCO ENTERPRISES, INC

Programming Instructions for TVT Control Versions: 702228-0 and 25228-4 (old board design)

## INTRODUCTION

This brewer incorporates our latest TVT controller technology. At the heart of the system is a LCD display with digital readout and icons indicating brewer functions. The end user need only set 3 brew criteria for each of the 3 brew profiles. Simply tell the brewer how hot (Temperature), how much (Volume), and how long (brew Time) for each brew profile. An additional programming mode allows control of additional features such as sentry timer, visa-brew time, calibration for flow rate, and display of temperature and volume units. All set from the front control panel using a digital display for precise control. The following pages will explain the control features and the process required to program your unit.

## Power Up Modes

Once the brewer has been connected to a water supply, you are ready to plug unit in. When plugging brewer in it will go into one of three power up modes. These modes are; access to factory settings, load default settings, and normal mode. Normal mode will be discussed first.

Normal Power Up Mode – This is the mode used for setting up a new piece of equipment from the factory. This mode will be automatically selected by plugging in the brewer without holding in any of the controllers buttons.

When the brewer is initially plugged in the heater element will turn on momentarily in an attempt to heat the cold tank. Note: tank heating will be indicated by the thermometer icon at the top left edge of the display. The controller will monitor the rate of temperature rise in the tank. If the tank has not been manually filled the rate of the temperature increase in the tank will exceed a preset value and the element will shut down. The thermometer icon will go out to indicate heating has stopped and the display will prompt for user to “Fill” while the brewbasket icon flashes. Ensure that brewbasket is in place. Place a suitable container beneath brewbasket to catch any excess water. Depress any of the three buttons below the display to fill the tank. The brewer will now allow the fill valve to open, delivering water into tank. The brewer will not heat until the fill cycle has been completed. This feature may be bypassed by entering and exiting program mode.

Once the unit has been filled, it will enter its idle mode. The brewer is considered idle when it is powered up but is not yet brewing and no settings are being adjusted. If the heater is on, the display will show the thermometer icon. If the unit is at least 1 degree away from set point temperature the happy face icon will turn on and the thermometer will pulse in synchrony with the heater as it maintains proper temperature. If the tank temperature is above set point, both the thermometer icon and tank heater will remain off. See “User Program Mode” to set brew profile information.

Access to Factory Settings – This mode allows control of additional features such as sentry timer, visa-brew time, calibration for flow rates, and display of temperature and volume units. This mode may be selected by holding center button for 2 seconds when first plugging unit in. The current software revision will scroll across the screen and “Pro” will then briefly display to indicate you are in program mode. Increment values up and down using right and left buttons when appropriate parameter is displayed. The following are the parameters that may be set in this mode and the icon that displays for each.

- a) En1 – This is an option for future use. It currently has no effect. Leave set on En1.


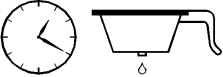
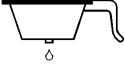



- b) Temperature display - (Thermometer icon flashes) Temperature may be displayed using either °F or °C. Selected unit is shown in main display area as well as to the right in a smaller font.



- c) Volume Display - (Pot icon flashes) Volume may be displayed using either units of ounces or liters, Oz or L. Selected unit is shown in main display area as well as to the right in a smaller font. Liters will be displayed in increments of .05. (.05L = 1.69oz).

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

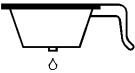

-  d) Sentry timer – (Pot & Clock icons flash) Will countdown after each brew (0:30min – 19:59 hours) After any brew, the sentry timer will activate & the CLOCK icon will turn on. The CLOCK icon will flash when the sentry timer expires to indicate the brewed beverage is no longer “fresh” (unless a new brew is started before the timer is allowed to expire).
-  e) Visa time – (Clock & Brew Basket icons flash) This time will always be added to the end of the brew cycles to allow for the coffee to finish draining from the brew basket. Timer display aids in preventing premature removal of either the brew basket or the dispenser. Each brew cycle Visa brew time setting is controlled independently and may be set between 30 seconds and 19 minutes and 59 seconds. Brew 1,2, and 3 are displayed sequentially.
-  f) Calibration Countdown – (Brew Basket Flashes) Will dispense water for 1 minute if either left/right button is pressed.
-  g) Calibration Value – (Brew Basket Flashes) 1 minute flow rate setting. The volume of water dispensed for 1 minute must be entered for volume calibration purposes. Calibration is necessary if the programmed brew volume is not being dispensed.

When “End” is displayed the user may press either the right/left buttons to exit the factory settings menus. The machine will then continue to operate in idle mode as described under Normal Power Up Mode.

Load Default Settings – Loads default settings for all three brew profiles and factory settings. Note: Default settings are not necessarily the same as factory settings which have been customized for brewer. This mode may be selected by holding in the 2 outer buttons for 2 seconds while plugging unit in.

## Other Modes

User Program Mode - By holding the center button continuously for 10 seconds, the machine will enter its user program mode. The heater will be disabled in this mode. The controller will scroll through the settings shown below for each of 3 brew profiles if the center button is pressed repeatedly. Pr1, Pr2, Pr3 will display briefly prior to each brew profiles settings. The left and right buttons will either adjust displayed value up or down or will toggle a value. The available settings are:

-  a) Brew Temperature – (Thermometer icon flashes) The minimum temperature at which a brew will start. Temperature may be set between 170-212.
-  b) Brew Volume - (Pot icon flashes) The combined total volume of concentrate and dilution to be dispensed. Brew volume may be set for volumes between 30 and 704 ounces (5-1/2 gallons). Coffee can only be set for 300 ounce max. See “Delay Or Brewtime” below.
-  c) Concentrate Volume - (Basket and Pot icon will flash in coffee mode and just basket in tea mode) The concentrate portion of the “mix” described above, to be dispensed. The adjustable range is 30 oz (min) – 704 oz (max). If the concentrate setting is set to equal the volume setting above, the controller will know the user wishes to brew COFFEE, thereby excluding any dilution. Maximum concentrate volume is set at 300 oz.
-  d) Delay Or Brewtime – (In tea mode clock and basket icon flash, in coffee mode basket will not be displayed) TEA mode, this setting represents the delay between concentrate dispense and dilution dispense. If no delay is desired, 0:00 may be entered. In COFFEE mode, this setting represents the amount of time though which the volume of water is to be dispensed. The basket icon will have disappeared.

The brewer will continue to cycle through profiles until you choose to exit. To exit user program mode press center button until “End” is displayed and select by depressing either left or right button.

Brew Mode - One of three brew profiles may be requested by a simple press and release of any of the three buttons. If the heater is on, the brewer will enter auto arm mode (basket & clock icon flashing). Otherwise, a brew will start. Under coffee mode (see program mode) if the time programmed for the brew exceeds the minimum time required, the excess time will be distributed throughout as "pauses" in the brew cycle. Each pause may come only after 20 seconds of "on time". Under tea mode, the machine will undergo a series of pauses during concentrate and dilution delivery, depending on its program settings. A brew may be cancelled by pressing any button.

Auto Arm Mode - Under AUTO ARM mode, the machine will display the TOP sensor temperature reading until it is ready to brew. Auto arm mode may be cancelled by pressing any button.

Temperature Monitor Mode - By holding down the center button while the LEFT button is pressed, the display will show the temperature readout for the TOP thermistor in the tank. Pressing any button at this point will clear the display. By holding down the center button while the RIGHT button is pressed, the display will show the temperature readout for the BOTTOM thermistor in the tank. Again, pressing any button at this point will clear the display.

Error Modes - To reset an error condition simply power the machine off and back on. If the error continues, check the condition of all sensors, hardware & wiring.

ER1 – Top thermistor shorted  
ER2 – Top thermistor open  
ER3 – Bottom thermistor shorted  
ER4 – Bottom thermistor open  
ER5 – Heater has run for more than 20 minutes continuously

If power is disconnected from the brewer, the control will reset its "fill monitor" feature. It is possible that, under unusual circumstances, the fill function could be called for. In this case, "Fill" will display on the control as outlined under the normal power up section on page 1. If this occurs you may reset by powering the machine off and back on or place a container beneath brewbasket, large enough to contain approx. 2-1/2 gallons, and press a brew button to begin fill cycle. You may also turn off water during this process if you are sure tank has been filled to save the time and energy required to reheat tank. Canceling the fill cycle prior to it completing will not reset fill monitor feature.

**NOTE: DO NOT REPLACE THIS CONTROL WITH AN OLDER CONTROL. PLEASE SPECIFY CONTROL WITH 702228-0 OR COMPATIBLE FIRMWARE.**