ELECTRONIC VALVE CONTROLLER IV
SET UP INSTRUCTIONS
PART # 4503-RA006
4503-RA009

IMPORTANT! Read all instructions before attempting to set up the EVC IV. When you begin the implementation, read through each step again.

1. **TO BEGIN**: On the back of the EVC unit is a switch marked **"SW< >PO"**. If you have a single port, swing valve or internal type wastegate, select "**SW**". If you have a dual port, poppet or external type wastegate, select "**PO**".

2. **LEARNING MODE:** The learning mode will enable the EVC IV to read your vehicle's normal boost curve. This information will widen your car's power band in order to optimize the benefits of your turbo. For safety reasons, we recommend going to a local drag strip to set the learning mode. With the power on, push and hold the **"Alt"** button. While holding the **"Alt"** button push the **"Sbc"** button. The unit should emit an audible beep and the display should show an **"L"** for "**Learning Mode**". The EVC IV is now ready for your first test run. ***IMPORTANT! Do not engage boost until the car is in third gear!*** This will produce maximum load on the vehicle. Starting at 2000 rpm, accelerate under boost until an audible beep is heard. After the beep, lift off the throttle. The EVC IV has learned the vehicle's stock boost. (If a beep is not heard before red line, the vehicle is not producing stable boost. Check all hose connections and verify proper installation). After the first test pass is completed, the EVC display should now read **"H"**. The EVC is now ready for your second pass. Again, do not engage boost until third gear. Starting at 2000 rpm, accelerate under boost until red line is reached. Once the throttle is lifted, an audible beep will be heard. The "**Learning Mode**" was successful, and the EVC IV will go directly into the "**Boost Pressure Setting**" mode. You can now skip down to step #5. If you have trouble setting the learning mode, you can skip this step and go directly to step #3 below. Due to the varying transitions between twin sequential systems (such as the Supra Twin Turbo and RX7 Twin Turbo), it is recommended to bypass the learning mode.

3. **STOCK BOOST SETTING:** If you do not have an HKS boost gauge or do not know your vehicle's stock boost, you must do the following: With "**Low**' and "**Set**" flashing, turn the EVC's volume knob counterclockwise until the display reads 0.00, then press "**Sbc**". Enter 0.20 and press "**Sbc**" again. Drive the vehicle under full boost in third gear and read the boost pressure once it stabilizes. This figure is your stock boost. Reset the EVC unit (see directions on the next page). Once the unit has been reset, when "**Low**" and "**Set**" are flashing, enter your stock boost pressure, followed by pressing the "**Sbc**" button.

- ***Note: If at any time during the set up process the display flashes "L" or "H", it is an indication that you need to calibrate the volume knob. If a flashing "L" is displayed, turn the volume knob all the way counter clockwise. If a flashing "H" is displayed, turn the volume knob all the way clockwise.***

4. **STOCK BOOST "PLUS" SETTING:** In order to input your "stock boost plus", you must add .2 to your stock boost number. For example, if you entered .5 (7.25 psi) as your stock boost, you must input .7 as your boost plus setting (.5 + .2 = .7). With "**High**" and "**Set**" flashing, turn the volume knob until your stock boost plus setting is displayed, then press the **"Sbc"** button.

Note: IF YOU HAVE ANY PROBLEMS AND WANT TO START AGAIN, YOU CAN RESET THE UNIT. With the ignition key in the on position and the power to the unit turned off, push and hold the **"Mod"** button. While holding the **"Mod"** button, push and hold the **"Alt"** button. Then while holding both **"Mod"** and the **"Alt"** buttons, push and hold the **"Sbc"** button. You should hear an audible beep. You can then go back to instruction #1 above. If you do not hear a beep, your unit may not have presets programmed in the unit.

5. **BOOST PRESSURE SETTINGS:** The unit will display **"high"** while **"set"** is flashing. Turn the volume knob until the desired boost number appears. **Immediately** push the **"Alt"** button. The unit will display **"low"** while **flashing "set"**. Turn the volume knob until the desired boost number appears. Immediately push the **"Mod"** button.

IMPORTANT: Your **"high"** setting must be equal to or higher than your **"low"** setting. If a flashing **"L"** or **"H"** is displayed during this process of setting the boost pressures, you must recalibrate the volume knob. Please refer to the bold print in step #3 for re-calibration directions.

6. **OFFSET MODE:** This function enables you to calibrate your boost levels.

   If you **have** completed the **"Learning Mode",** the offset should automatically be calibrated. You can verify by pushing the **"Mod"** button (see flow chart). If the display reads **"100"**, your "offset mode" is correct and you can now advance to instruction #7.

   If you **have not completed the "Learning Mode"**, you may need to calibrate the boost levels by adjusting the **"Offset Mode"**. For example if you have a single port, swing valve or internal type wastegate and have programmed the EVC for a **"low boost"** of 1.0 but it will only hit .9. The **"Low Offset Setting"** allows you to adjust the offset in order to match your programmed number. In the example above if we dial the offset number down from 100 to 86, the readout for the boost you achieve should now match your programmed low boost of 1.0. Be sure to follow the instructions below for the specific type of wastegate you are using. There are two offset modes. One for the **"high"** boost setting and one for the **"low"** boost setting. Program the offset using even numbers only and between the range of 50 – 150. The default or normal setting is **"100"**. To calibrate your **"Offset Mode"**, follow **only one set** of instructions listed below.

   Dual port, poppet or external type wastegates
   If the display shows a lower boost than what you had programmed, raise the offset number. If the display shows a higher boost than what you had programmed, lower the offset number.

   Single port, swing valve or internal type wastegates
   If the display shows a lower boost than what you had programmed, lower the offset number. If the display shows a higher boost than what you programmed, raise the offset number.

7. **SCRAMBLE BOOST SETTING:** This setting allows you to run higher boost for a predetermined length of time simply by pushing the **"Sbc"** button. The additional scramble boost and time settings will be the same for both the high boost and low boost. To gain access to this function push the **"Mod"** button. The display should read **"0.00"**. Input the amount of additional boost to be programmed by turning the volume knob. For example, if your boost is set at 1.1 and you want to be able to run at 1.3 for a short duration of time you would dial in .2 (1.1 + .2 = 1.3).

8. **SCRAMBLE TIME SETTING:** This mode will set the duration of time the **"Scramble Boost"** will stay in effect. You can program this function to operate from 1 – 30 seconds. Push the **"Mod"** button. The display should read 00. Program the time duration for 1-30 seconds by turning the volume knob.

9. **WARNING BOOST SETTING:** This mode is a safety feature that will act as an override in the case of an overboost condition. When triggered the EVC IV display will flash, set off a series of audible beeps and return your boost back to the stock level until you lift off of the throttle. For example: if your high boost setting is 1.1 and you want the warning boost setting to be .1 over your high boost setting you will set this mode at 1.2 (.1 + 1.1 = 1.2). To access this mode push the **"Mod"** button then dial in your setting by turning the volume control knob.

10. **AUTO ADJUST MODE:** Over a period of time as your turbocharger begins to wear and becomes less efficient, the boost pressure may drop. This mode allows the EVC IV to automatically adjust the wastegate in order to maintain the boost pressure. ***WARNING!!*** Because this mode will cause the turbo to work harder in order to produce the same boost pressure it will contribute to the turbo's deterioration. **For this reason we recommend that the "Auto Adjust Mode" be turned off.**

    To turn the **"Auto Adjust"** mode off, make sure the ignition key is on and the EVC power is off. While holding the **"Mod"** button, change the "**SW< >PO**" switch on the back of the unit from its current position. Once you hear an audible beep return the switch back to its original position. Again there will be an audible beep. To turn the **"Auto Adjust"** mode back on, simply repeat the same step above.

11. **INHIBIT MODE:** Inhibit mode enables the EVC IV to be locked so that none of the preset values can be changed. To engage the inhibit mode, make sure the ignition key is on and the unit power is off. While holding down the **"Alt"** button change the position of the "**SW< >PO**" switch on the back of the EVC. Release the **"Alt"** button and return the switch back to its original position. The presets are now locked into the EVC IV. To turn the inhibit mode off, make sure the key is in the on position and the unit power is off. While holding down the **"Sbc"** button, change the position of the "**SW< >PO**" switch on the back of the unit. Release the **"Sbc"** button and return the switch back to its original position. Inhibit mode is now turned off and all of your presets and programming can be changed.

EVC IV FLOW CHART

(How to advance between functions after initial set up)