

Pin Map

NOTE: Thoroughly read and understand this section before using Holley HP and Dominator EFI systems

HP and Dominator EFI systems do not “hard code” functions to a specific ECU pin. Doing so “wastes” an input or output if that feature is not used. HP and Dominator software allows the user to specify what pins are used for inputs and outputs. Only the standard sensors and outputs are hard coded. This is a very powerful feature, but also requires very careful attention when wiring a vehicle. If people “share” tunes, it also requires that both make sure that their wiring/pinouts remain as intended.

Pin Mapping Process

Pin Mapping begins by creating and defining a new Global Folder (GF) and selecting what Individual Configuration Files (ICF) are to be used. If an ICF has an input or output that will need to be pin mapped, it will have an “Inputs/Outputs” tab at the bottom window selections (see Nitrous example below). Each Inputs/Outputs screen for a specific ICF will show all the possible Inputs and Outputs that can be enabled for that particular ICF. The ones that are enabled will have white and bold text. The ones that are not enabled will be grey and will not be editable. The information on these screens shows the following:

- **Function** – Verbal description of particular function
- **ECU Pin it is assigned to** – Shows the pin a function is pin mapped to. If not pin mapped, it will read “NOT DEFINED”. Before this function will operate, it must be assigned to an ECU pin.
- **Input Type** – The user can choose whether an input or an output is “high” (+12v) or “low” (ground). Pulse width modulated outputs can be high (PWM+) or low (PWM-) as well.

The screenshot displays the Holley EFI software interface for configuring Nitrous inputs and outputs. The main window is titled "Holley EFI - [Nitrous Inputs/Outputs::demo]". The interface includes a menu bar (File, Save, Toolbox, Offline, Help, Help?, Datalog) and a toolbar with various icons. The central area is divided into several sections:

- NITROUS**: A sidebar on the left with a tree view showing "Nitrous Parameters" (Stage 1, Stage 2, Stage 3, Stage 4, Purge) and "Inputs/Outputs" (highlighted with a red circle).
- NITROUS INPUTS**: A table with columns for FUNCTION, ECU PIN, and INPUT TYPE.

FUNCTION	ECU PIN	INPUT TYPE
N20 Input #1	NOT DEFINED	GROUND
N20 Input #2	NOT DEFINED	GROUND
N20 Input #3	NOT DEFINED	GROUND
N20 Enable	J2-A14	+12V
N20 Purge In	NOT DEFINED	GROUND
- NITROUS OUTPUTS**: A table with columns for FUNCTION, ECU PIN, and OUTPUT TYPE.

FUNCTION	ECU PIN	OUTPUT TYPE
N20 Stg1 Out	NOT DEFINED	PWM-
N20 Stg2 Out	NOT DEFINED	PWM-
N20 Stg3 Out	NOT DEFINED	PWM+
N20 Stg4 Out	NOT DEFINED	PWM+
N20 GPO #1	NOT DEFINED	GROUND
N20 GPO #2	NOT DEFINED	GROUND
N20 GPO #3	NOT DEFINED	GROUND
N20 GPO #4	NOT DEFINED	GROUND
N20 Purge Out	NOT DEFINED	PWM+
- Sensor**: A list of sensors with their current values: RPM 0, TPS 0%, MAP 0 kPa, MAT 0°F, CTS 0°F, Baro 0.00 InHg, Battery 0.0 Volts, Oil Pressure 0 psi, Fuel Pressure 0 psi, IAC Position 0%.

The bottom of the screen shows the Windows taskbar with the date "Wednesday, February 17, 2010" and time "4:12 PM".

Once a Global Folder is fully defined and the Inputs/Outputs screens (see above) are configured as needed, open the Pin Map feature by clicking the icon (as shown below). Note that there are four tabs at the top (see below):



- **View Inputs** – Used to configure all Input pins
- **View LCD** – Used to configure up to 10 switched inputs to be activated by the optional 5.7” Touch Screen LCD if being used.
- **View Outputs** – Used to configure all Output pins
- **View Injectors** – Used to view what injectors are assigned. All are hard coded. If using for water/meth outputs, look at this screen to see what pins to wire the water/meth solenoids to.

At this point, all of the inputs and outputs created should show up in the “Unassigned Inputs” or “Unassigned Outputs” area. Each will have a symbol (letter or number) next to them to indicate what “Type” of input or output it is. The following reviews these:

Inputs

- (F) – “Frequency” - A digital input typically used for a speed input
- (5) – “0-5 Volt” – Used for any 0-5 volt sensor input
- (2) – “0-20 Volt” – Used for any 0-20 volt sensor input
- (T) – “Thermistor” – Used for thermistor type sensor inputs (2 wire coolant/air temperature sensors)
- (H) – “High” – Used for +12v switched inputs
- (G) – “Ground” – Used for ground switched inputs
- (S) – “Speed” – Used for inductive (AC signal) speed inputs

Outputs

- (H) – “High” – Used for switched +12v (system voltage) outputs
- (G) – “Ground” – Used for switched ground outputs
- (P+) – “PWM +” – Used for high side (+12v) Pulse Width Modulated Outputs
- (P-) – “PWM -” – Used for ground Pulse Width Modulated Outputs

Drag and drop each input or output to an ECU pin that has the same symbol (it will not allow you to drop on an incorrect type).

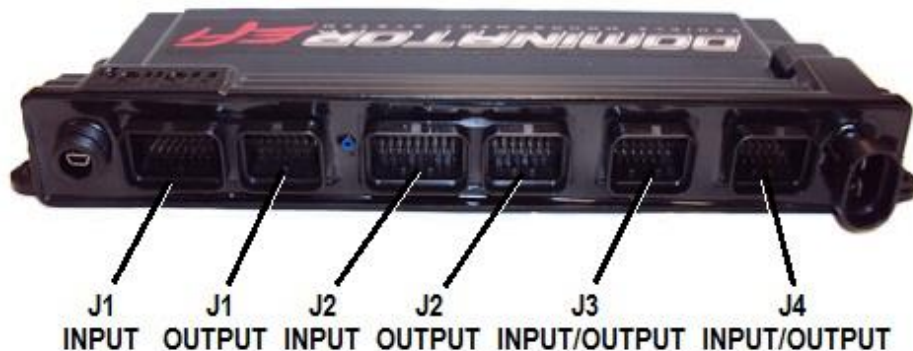
Once done, wire the car according to how the pins are assigned. Be SURE you are careful when pinning a harness so that you select the intended pin locations!

HP ECU Connectors

HP ECU's have four programmable Inputs and four programmable Outputs. When the software is configured for an HP ECU (under "Toolbox" and "Preferences") it will only show these 4 available inputs and outputs. The physical wiring for these in the harness (on every terminated harness) is located on an 8 pin male metripak connector on the harness about 30" from the ECU connectors. An adapter harness to plug into this can be purchased under Holley PN 558-400.

Dominator ECU Connectors

Dominator ECU's have programmable inputs and outputs available on every connector. The following picture shows what connector relates to the Pin Map. Note that the letters "P" and "J" are interchanged in places for the connectors. They can be thought of as the same. The "P" refers to the male harness connector and the "J" refers to the mating female ECU connector.



**Holley Technical Support
1801 Russellville Road
Bowling Green, KY 42101
270-781-9741
www.holley.com**

199R10545

Revision Date: 8-7-14