

Pinouts for the RX7 Series 4 ECU

Pin	Factory Function	Adaptronic Func	Comments
3J	Wht / Blu Constant Power	Constant power in	
3I	Grn / Yel Ignition Power	+12V in	
3H	LtGrn / Wht Secondary Injector 1	Injector Output 2	
3G	Blk GND	Power Ground	
3F	LtGrn / Red Secondary Injector 2	Injector Output 4	
3E	LtGrn Primary Injector 1	Injector Output 1	
3D	Blk / Red Starter inhibit	Aux Output 5	To drive the fuel pump from the ECU, required if you are going to remove the airflow meter, cut this wire, and connect the Blk / Red wire from the ECU to the brown wire on the airflow meter connector.
3C	LtGrn / Blk Primary Injector 2	Injector Output 3	
3B	Blk / Blu Starter input		
3A	Blk GND	Power Ground	
2R	Blk GND	Power Ground	
2Q	Blu / Grn Idle Control	Aux Output 2	
2P	Blu / Yel Relief Valve	Digital Input 6	This is an output from the factory ECU. We don't drive this output, so instead this can be used as a digital input.
2O	Blu / Red Switching Valve	Ignition Output 4	This is an output from the factory ECU. We don't drive this output, so instead this can be used as the leading ignition for rotor 2 if converting to 4 coils.
2N	Blu / Wht EGR Valve		
2M	Blu / Ora Pressure reg control valve	Aux Output 4	(disconnects vacuum from pressure reg for a time after starting)
2L	Grn Manifold Air Temp	Air Temp Input (MAT)	
2K	Blu / Blk Turbo Control Valve	Aux Output 3	(boost control)
2J	Grn / Ora Inlet Air Temp	Aux Temp Input	
2I	Grn / Wht Engine Coolant Temp	Coolant Temp Input	
2H	Grn / Yel ATP		
2G	Grn / Red TPS Signal	TPS Input	
2F	Grn / Blk Variable Resistor (tuning)	MVSS Input	There is no road speed input to the factory ECU. This input can be used for that if desired (eg for launch control or boost-by-gear)
2E	Grn / Blu Airflow Signal	Ext 0-5V Input	Not used by the Adaptronic for tuning, therefore can be used as an external 0-5V input.
2D	Grey Oxygen Sensor Signal	O2 Input	
2C	Blk Sensor Ground	Sensor GND	
2B	Brn / Red MAP Signal	MAP Input	We can remove the factory MAP sensor and use the built-in sensor in the ECU if desired.
2A	Brn / Wht 5V Sensor Supply	TPS +5V	

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1X	Blu / Yel Ignition Trailing	Ignition Output 2	Fires every 180°.
1W	Blk / Yel Heat Hazard	Aux Output 6	Drives the light on the dash
1V	Grn / Yel Ignition Leading	Ignition Output 1	Fires every 180°.
1U	Brn / Yel Ignition Select	Ignition Output 3	Selects which coil is to be fired.
1T	Red CAS: 24-tooth trigger	CAS 2	Note: Other RX7 Plugins map the multitooth trigger to CAS1.
1S	Brn / Red Port Air Valve	Aux Output 1	Port air injection
1R	LtGrn Knock Input	Digital Input 5	Input from knock module
1Q	Wht CAS Ground	Sensor GND	
1P	Blu CAS Ground	Sensor GND	
1O	Blu / Blk Mileage sensor	Digital Input 7	Available as a digital input.
1N	Grn CAS: 2-tooth trigger	CAS 1	Note: Other RX7 Plugins map the reset trigger to CAS2.
1M	Blu / Red Ignition Feedback		
1L	Yel / Blu Clutch Switch	Digital Input 1	
1K	Blk / Red Shift Light	Aux Output 8	
1J	Ora Check Connector	MVSS 2	On a 4-wheel speed installation, this is the right rear sensor.
1I	Blk / Blu "Overtop" (overdrive)	Digital Input 3	
1H	Brn Water Temp Switch	Knock	Can be connected directly to a knock sensor if desired
1G	Grn / Blk Neutral Switch	Digital Input 2	
1F	Blu / Wht Air Conditioner Clutch	Aux Output 7	
1E	Blu / Ora Air Conditioner Request	Digital Input 4	
1D	Yel Check Connector	SVSS1	On a 4-wheel speed sensor vehicle, this is the left front.
1C	Brn / Yel Air Bypass		
1B	Yel / Red Check Connector	SVSS2	On a 4-wheel speed sensor vehicle, this is the left front.
1A	Yel / Blk Check Connector	CAS3	Can be used for flex fuel sensor

Notes on tachometer and ignition outputs:

The FC RX7 runs wasted spark on the leading and addressing on the trailing plugs. These are wired:

Leading plugs	Ignition 1	1V
Trailing spark signal	Ignition 2	1X
Trailing rotor selection	Ignition 3	1U

With a 3ms dwell time and a 1ms spark time, this gives a maximum RPM of 7500. Higher RPM can be achieved by reducing the dwell time or converting to direct fire ignition.

This ECU can be used in direct fire mode, by using the 4th ignition output, in the following configuration:

Front leading (Leading rotor 1)	Ignition 1	1V
Front trailing (Trailing rotor 1)	Ignition 2	1X
Rear trailing (Trailing rotor 2)	Ignition 3	1U
Rear leading (Leading rotor 2)	Ignition 4	2O

Note that when using ignition 4 output on the ECU, Aux 1 is not available. Aux 1 on the Select RX7 ECU controls the exhaust port air injection for emissions control.

The tachometer function on the FC RX7 is derived from the ignition system, so to run direct fire, you will need to configure an auxiliary output as a tachometer and wire it up with an external pullup.