

**Adaptronic Select ECU for
RX7 S6 S7 (series 6 and 7)**

View from loom side of plug:

4Y	4W	4U	4S	4Q	4O	4M	4K	4I	4G	4E	4C	4A	3O	3M	3K	3I	3G	3E	3C	3A	2K	2I	2G	2E	2C	2A	U	S	Q	O	M	K	I	G	E	C	A
4Z	4X	4V	4T	4R	4P	4N	4L	4J	4H	4F	4D	4B	3P	3N	3L	3J	3H	3F	3D	3B	2L	2J	2H	2F	2D	2B	V	T	R	P	N	L	J	H	F	D	B

Factory Pin	Factory Function (NC means No Connection in factory loom)	Adaptronic Pin (blank means no connection to Adaptronic)	Comments
4Y	Injector (Rear Primary)	Injector Output 3	
4W	Injector (Front Primary)	Injector Output 1	
4U	Wastegate Control Solenoid Valve	Aux Output 3	
4S	Charge Relief Solenoid Valve	Aux Output 1	Connected to Pin 4R
4Q	Idle Control Solenoid Valve	Aux Output 2	
4O	EGR Solenoid Valve		
4M	PRC Solenoid Valve		
4K	Oil Metering Pump 2 bar	Aux Output 8 bar	Always functions opposite to 4I
4I	Oil Metering Pump 2	Aux Output 8	
4G	Crankshaft Position Sensor G (timing) +ve	CAS 2 input	
4E	Crankshaft Position Sensor NE (timing) +ve	CAS 1 input	
4C	Chassis Ground	PGND	
4A	Chassis Ground	PGND	
4Z	Injector (Rear Secondary)	Injector Output 4	
4X	Injector (Front Secondary)	Injector Output 2	
4V	Turbo Pre Control Solenoid Valve	Aux Output 4	
4T	Charge Control Solenoid Valve	Charge Control Valve Output	Always functions opposite to 4R and 4S
4R	Turbo Control Solenoid Valve	Aux Output 1	Connected to Pin 4S
4P	AWS Solenoid Valve		
4N	Secondary Air Switch Valve	PGND	
4L	Oil Metering Pump 1 bar	Aux Output 7 bar	Always functions opposite to 4J
4J	Oil Metering Pump 1	Aux Output 7	
4H	Crankshaft Sensor -ve	SGND	
4F	Split Air Bypass Solenoid Valve		
4D	Sensor Ground	SGND	
4B	Chassis Ground	PGND	
3O	Double Throttle Control Solenoid Valve		
3M	Knock Sensor	Knock input	
3K	Relief 2 Solenoid Valve		
3I	TPS 5V	TPS 5V	
3G	TPS Full Range	TPS signal input	
3E	Coolant Temp Sensor	ECT	
3C	Oxygen Sensor Input	O2 signal Input	
3A	Metering Oil Pump position sensor	Ext In	
3P	Secondary Air Bypass Valve		
3N	Port Air Bypass Solenoid Valve		
3L	Intake Air Temperature Sensor	MAT input	
3J	EGR Function Sensor		

Factory Pin	Factory Function (NC means No Connection in factory loom)	Adaptronic Pin (blank means no connection to Adaptronic)	Comments
3H	Purge Solenoid Valve		
3F	TPS Narrow Range		
3D	Cooling Fan Relay	Aux Output 6	
3B	Electrical Load	Digital Input 8	
2K	Gear 1 detection	Digital Input 6	
2I	Heat Hazard Sensor		
2G	Auto Transmission		
2E	Auto Transmission		
2C	Auto Transmission		
2A			
2L	Gear 2 detection	Digital Input 7	
2J	Air Pump Relay		
2H			
2F			
2D	Auto Transmission		
2B	Tachometer output	Tacho Out	Driven by combining trailing ignition 1 and 2 outputs
1U / U	Fuel Thermo Sensor	Aux Temp	
1S / S	Stoplight Switch	Digital Input 5	
1Q / Q	Clutch Switch	Digital Input 1	
1O / O	MAP Sensor signal	MAP signal input	
1M / M	Speedometer	MVSS1	
1K / K	Fuel Pump Relay (Speed)	PGND	
1I / I	Data Link Connector	Igniter Output 4	Not used on factory, but can use this pin for conversion to direct fire if changing to single turbo
1G / G	Igniter Trailing Front	Igniter Output 2	
1E / E	Refrigerant Pressure Switch	Digital Input 4	
1C / C	Park/Neutral Switch (AT)		
1A / A	Constant Power	Const 12V	Straight from battery via fuse
1V / V			
1T / T	Fuel Pump Relay	Aux Output 5	
1R / R	Neutral Switch	Digital Input 2	
1P / P			
1N / N	Steering Pressure Sensor	Digital Input 3	
1L / L	A/C Relay	AC Relay Output	
1J / J	Igniter Trailing Rear	Igniter Output 3	
1H / H	Igniter Leading	Igniter Output 1	
1F / F	Data Link Connector		
1D / D	Data Link Connector		
1B / B	Main Relay	+12 Ignition	

The following spare Adaptronic pins can be accessed by removing the ECU lid and fitting a plug on the 6-pin

Pin	Description	Comments
1	MVSS1 (master vehicle speed sensor 1)	Connected to the one vehicle speed signal pin (pin 1M)
2	MVSS2 (master vehicle speed sensor 2)	
3	SVSS1 (slave vehicle speed sensor 1)	
4	SVSS2 (slave vehicle speed sensor 2)	
5	Sensor Ground	
6	Sensor 5V supply	

Load Sensing Options:

Option	Description	Comments	How to
1	Standard MAP sensor	Simple, but may not have sufficient boost sensing range	No mechanical or electrical changes required.
2	Select ECU internal MAP sensor	Simple, up to 43psi boost	Simply run a hose from the barb on the ECU to the engine bay (preferably to the hose that normally goes to the stock MAP sensor).
3	External MAP sensor using the stock MAP sensor wiring	Nothing through firewall, sensing range dependent only on chosen sensor	Connect the 3 wires of your chosen external MAP sensor to the existing 3 wires for the factory MAP sensor, and disconnect the factory MAP sensor plug (or just cut the wires).

Notes on tachometer and ignition outputs:

The FD RX7 runs wasted spark on the leading plugs and direct fire on the trailing plugs. These are wired:

Leading plugs	Ignition 1	1H
Front trailing (Trailing rotor 1)	Ignition 2	1G
Rear trailing (Trailing rotor 2)	Ignition 3	1J

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	1H
Front trailing (Trailing rotor 1)	Ignition 2	1G
Rear trailing (Trailing rotor 2)	Ignition 3	1J
Rear leading (Leading rotor 2)	Ignition 4	1I

The 1I pin comes out at the datalink connector, or you can run another wire directly to the pin on the ECU. Note that when using ignition 4 output on the ECU, Aux 1 is not available. Aux 1 on the Select RX7 ECU controls the twin turbo sequentialisation. Therefore the direct fire option is only available for a single turbo conversion, or if the twin turbos are desequentialised (ie, both are always running).

The tachometer output on pin 2B is generated by the logical ORing of ignition outputs 2 and 3, so that it will work in either direct fire or wasted spark leading ignition mode. This does mean that the ignition outputs can not overlap; ie with a dwell time of 3ms the maximum RPM for the tachometer to work correctly is 10000 RPM (in theory). Above this RPM, another aux output would have to be dedicated as a tachometer output.