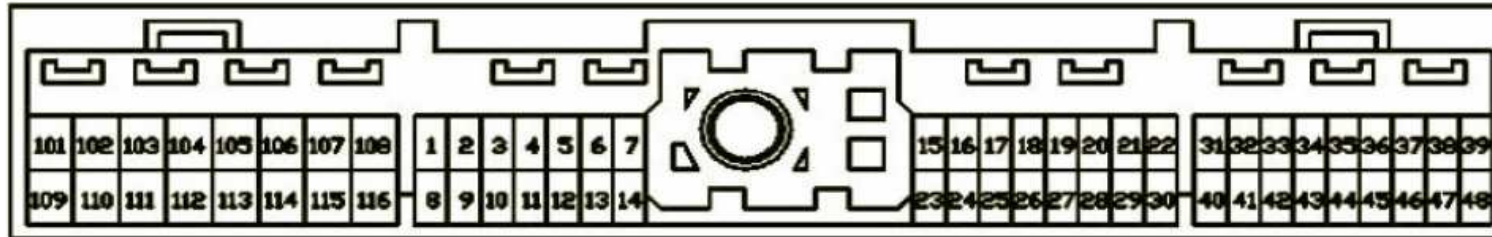




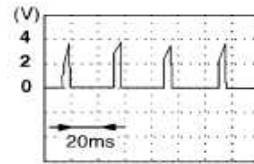


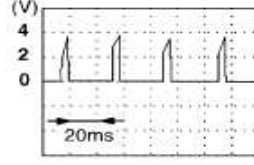


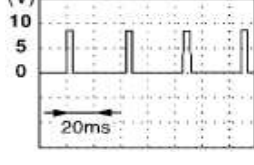






SR20DET -> 1995 Nissan Altima ECU Pinouts

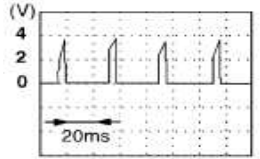
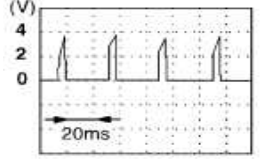
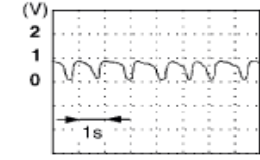
Revision 0.11

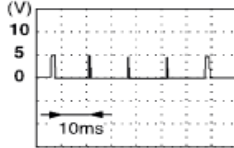
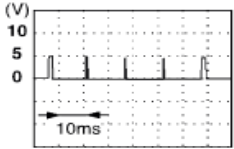
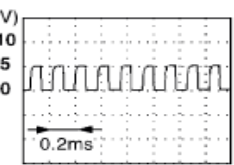
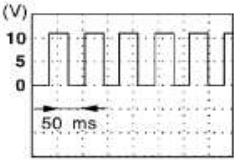


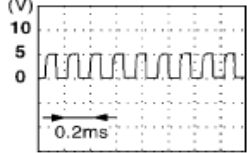
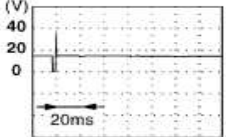
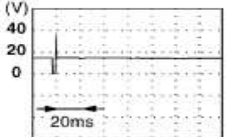
This pinout diagram can be used to install an SR20DET ECU into the factory wiring of a '95 Nissan Altima to run an SR20DET engine.

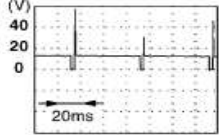
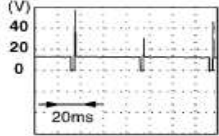
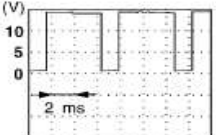
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Pin	SR20DET Color	95 Altima Color	Name	Symbol	Description	Signal
1	 R/W	 W	PTU #1 Ignition Signal	IGN1	This pulse signal drives the base of the #1 power transistor unit (PTU) of the igniter pack. This power transistor will then in turn drive the coil pack for the #1 cylinder. Remove the white wire that goes to the Altima's power transistor and connect it up to pin #1 of the PTU 5-pin plug.	
2	 R/W	 Y/R	PTU #2 Ignition Signal	IGN2	This pulse signal drives the base of the #2 power transistor unit (PTU) of the igniter pack. This power transistor will then in turn drive the coil pack for the #2 cylinder. Remove the yellow/red wire that goes to the Altima's resistor/condensor and connect it up to pin #2 of the PTU 5-pin plug.	
3	 Y/R	 L/B	Tachometer	TACHO	This pulse signal drives the tachometer in the instrument cluster.	
4	 B	 B	ECM Relay Ground (self-shutoff)	SSOFF	The ECU will provide this ground to the ECM Relay when the ignition switch is in START or ON (power sensed on pin 36). When the ignition switch is turned OFF, power will drop out on pin 36 and the ECU will place battery voltage to this relay to turn the ECM OFF.	0 - 1V
5			Ignition Pulse			BATTERY VOLTAGE (11 - 14V)
6	 B	 B	Ignition Signal Ground	IGNGND	This ECU ground supports the ignition signal. Connect this wire to the black wire from pin 106 on the Altima ECU.	Engine ground
7	 G/B	 Y/B	CONSULT Data Link Connector (Rx)	RX	This is the data line used by the ECU to receive serial data from a Nissan CONSULT capable device. Connect this wire to pin 64 on the Altima ECU.	Approximately 0.1V

8			PTU #3 Ignition Signal	IGN3	This pulse signal drives the base of the #3 power transistor unit (PTU) of the igniter pack. This power transistor will then in turn drive the coil pack for the #3 cylinder. Remove the white wire that goes to the Altima's power transistor and connect it up to pin #1 of the PTU 5-pin plug.	
9			PTU #4 Ignition Signal	IGN4	This pulse signal drives the base of the #4 power transistor unit (PTU) of the igniter pack. This power transistor will then in turn drive the coil pack for the #4 cylinder. Remove the yellow/red wire that goes to the Altima's resistor/condensor and connect it up to pin #2 of the PTU 5-pin plug.	
10						
11						
12			A/T signal No.3	DT3	This A/T data signal is one of three transmission lines that are used to synchronize the transmission with the engine for smoother operations. It also alerts the engine of possible failures within the automatic transmission.	0V
13			Ignition Signal Ground			
14			CONSULT Data Link Connector (Clk)		This is the data line used by the ECU to clock serial data to and from a CONSULT capable device.	Approximately 0.1V
15			CONSULT Data Link Connector (Tx)		This is the data line used by the ECU to transmit serial data from a CONSULT capable device.	
16			Mass Airflow Sensor		This DC voltage signal carries the representation of the amount of intake air flow sensed by the MAF hot-wire. The value varies with engine speed and is sent to the ECU for calculating fuel and ignition requirements.	0.8 - 3.0V
17			Mass Airflow Sensor Ground		This ground is provided by the ECU solely for the MAF.	0V
18			Engine Coolant Temperature Sensor	TW	This DC voltage varies with the engine coolant temperature. The voltage decreases as the coolant temperature rises.	0 - 5.0V
19			Oxygen Sensor	O2	When the ECU enters O2 sensor mixture feedback called closed loop, it will continuously be monitoring that this sensor's output voltage swings between 0 -1 volts. When the engine is running at stoich it should swing at least five (5) times within ten (10) seconds across the centerline of 0.5 volts (500 mV) . Changes outside these parameters causes the ECU to identify areas for short- and long-term fuel trim corrections.	0 - Approximately 1.0V 
20			Throttle Position Sensor Input	TVI1	ECU sends a 5 volts reference to this sensor and then senses how much of it comes back from this line. This voltage represents the angular degrees of opening (max=90 degrees).	0.3 - 4.0V
21			ECM Sensor Ground	GND-A	The ECU provided ground goes to various sensors. The original ground comes from two engine grounding points located at the topside of the upper intake manifold.	Engine ground

22			Camshaft Position Sensor (Reference signal)	CMP1	The pulse signal represents the TDC of all cylinders. The #1 cylinder is differentiated by a long pulse width. This signal is referred to a 180° signal. It originates from 4 slits of a photo diode/sensor disc (Optronic) inside the distributor. This wire is also paired up with pin 30.	0.2 - 0.4V 
23			CONSULT Data Link Connector (check?)	CHK		
24			Malfunction Indicator Lamp	MIL	This wire turns on the MIL. It flashes when the ECU is set to diagnostic mode, set to oxygen sensor testing, or the engine is misfiring. It is normally turned OFF by applying battery voltage.	Approximately 0.1V BATTERY VOLTAGE (11 - 14V)
25			Exhaust Temp Warning			
26			Exhaust Temp sensor input signal			
27			Knock Sensor	KS	This wire is held steady at about 2.5V. When an audible knock is heard it will inform the ECU of the event. The level of knock spikes determine the knock intensity.	Approximately 2.5V
28			Auto trans throttle position signal			
29			Sensor ground			
30			Camshaft Position Sensor (Reference signal)	CMP1	The pulse signal represents the TDC of all cylinders. The #1 cylinder is differentiated by a long pulse width. This signal is referred to a 180° signal. It originates from 4 slits of a photo diode/sensor disc (Optronic) inside the distributor. This wire is also paired up with pin 22.	0.2 - 0.4V 
31			Camshaft Position Sensor (Position signal)	CMP2	The pulse signal represents the 1° rotation of the crankshaft. There are 360 slits of a photo diode/sensor disc (Optronic) inside the distributor. This wire is also paired up with pin 40.	Approximately 2.3 - 2.5V 
32			Vehicle Speed Sensor	VSP	The vehicle speed sensor is installed in the transaxle. It sends a signal to the speedometer, which will in turn sends it out to the ECU, ATCU, and cruise control unit.	4 - 7V 
33						
34			Start signal		The ECU monitors this pin to determine when the operator has set the ignition switch to START. It will internally going into START mode to prepare for engine starting operations.	Approximately 0.1V BATTERY VOLTAGE (11 - 14V)

35		Park/Neutral Position (PNP) Switch		The ECU monitors this pin to determine when the transmission has gone into a park or neutral position.	
36		Ignition Switch			
37		Throttle Position Sensor Power Supply			
38		Power Supply for ECM (ECCS relay)		This wire is also paired with pin 47.	
39		ECM Sensor Ground	GND-A	The ECU provided ground goes to various sensors. The original ground comes from two engine grounding points located at the topside of the upper intake manifold.	Engine ground
40		Camshaft Position Sensor (Position signal)	CMP2	The pulse signal represents the 1° rotation of the crankshaft. There are 360 slits of a photo diode/sensor disc (Optronic) inside the distributor. This wire is also paired up with pin 40.	<p>Approximately 2.3 - 2.5V</p> 
41		Air Conditioner Switch		The ECU monitors this pin to determine when to operate the air conditioner (A/C) relay.	
42		AT comm line ????			
43		Power Steering Pressure Switch		When the steering wheels are turning under low speed conditions it will cause additional engine load. The ECU will ramp up the idle to compensate for this extra load.	
44		AT line			
45		IACV Fast Idle Control Device (FICD)			
46		Power Supply (Back-up)		The ECU receives constant power through this pin independent of the ignition switch position. Disconnecting this source for an extended period of time will cause the ECU to reset. This wire is also paired up with pin 109.	BATTERY VOLTAGE (11 - 14V)
47		Power Supply for ECM (ECCS relay)		This wire is also paired with pin 38.	
48		ECM Sensor Ground	GND-A	The ECU provided ground goes to various sensors. The original ground comes from two engine grounding points located at the topside of the upper intake manifold.	Engine ground
101		Injector #1		The injector pulsewidth is an ECU-provided ground. It is measured in milliseconds (ms) and represents the amount of time needed to keep the injector #1 opened. The pulsewidth varies based on engine operating conditions.	<p>BATTERY VOLTAGE (11 - 14V)</p> 
102		EGR control valve			
103		Injector #3		The injector pulsewidth is an ECU-provided ground. It is measured in milliseconds (ms) and represents the amount of time needed to keep the injector #3 opened. The pulsewidth varies based on engine operating conditions.	<p>BATTERY VOLTAGE (11 - 14V)</p> 
104		Fuel pump relay			

105			Fuel pump speed control module			
106			Air Conditioner (A/C) relay		The ECU will provide ground when both the A/C and blower fan switches are turned ON. It will provide battery voltage when it needs to turn the relay OFF.	0.7V BATTERY VOLTAGE (11 - 14V)
107			Injector ground			
108			Injector ground			
109			Power Supply (Back-up)		The ECU receives constant power through this pin independent of the ignition switch position. Disconnecting this source for an extended period of time will cause the ECU to reset. This wire is also paired up with pin 46.	BATTERY VOLTAGE (11 - 14V)
110			Injector #2		The injector pulsewidth is an ECU-provided ground. It is measured in milliseconds (ms) and represents the amount of time needed to keep the injector #2 opened. The pulsewidth varies based on engine operating conditions.	BATTERY VOLTAGE (11 - 14V) 
111			Boost control solenoid			
112			Injector #4		The injector pulsewidth is an ECU-provided ground. It is measured in milliseconds (ms) and represents the amount of time needed to keep the injector #4 opened. The pulsewidth varies based on engine operating conditions.	BATTERY VOLTAGE (11 - 14V) 
113			IACV-AAC (Auxiliary Air Control) solenoid valve		The ECU controls this solenoid duty cycle to coincide with a targeted values stored internally. This will adjust target idle speed and also under other engine operations.	Approximately 12V 
114						
115						
116			Injector ground			

