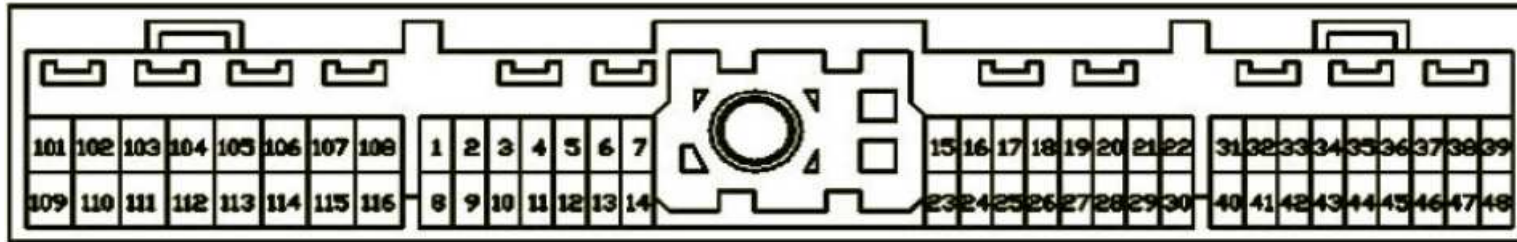

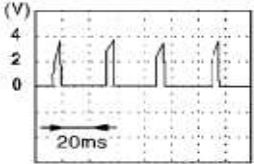

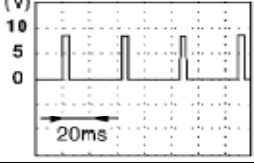

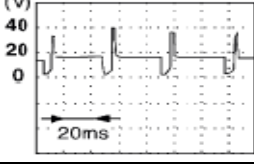


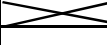

















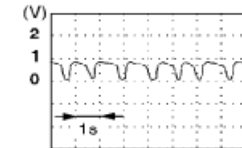


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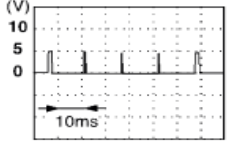







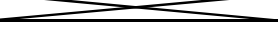




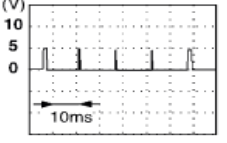

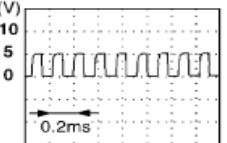

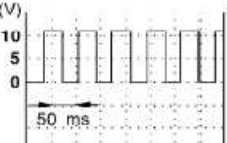

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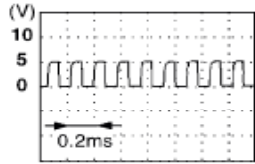











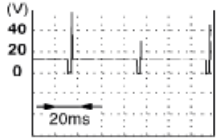

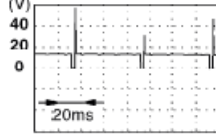






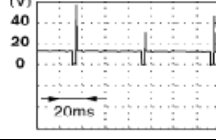
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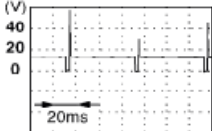

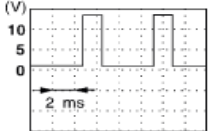

Pin	Color	Name	Symbol	Description	Signal
1		Ignition Signal	IGN	This pulse signal drives the base of the ignition power transistor and switches it ON and OFF. The power transistor will then in turn cycle the primary side of the ignition coil ON and OFF.	
2		Tachometer	TACHO	This pulse signal drives the tachometer in the instrument cluster.	
3		Ignition Check	IGNCK	This ignition signal is a feedback for the ECU to monitor the status of the primary ignition system.	
4		ECM Relay Ground (self-shutoff)	SSOFF	The ECU will provide this ground to the ECM Relay when the ignition switch is set to ON (sensed on pin 36). When the ignition switch is switched OFF, power will drop out from pin 36 and the ECU will then provide battery voltage to this relay to put the ECU in standby. It take a few seconds for the ECU to go into standby.	0 - 1V
5		N/A		No pinout connection.	
6		ECM Ground	GND	This ECU ground comes from two engine grounding points located at the topside of the upper intake manifold.	Engine ground
7		CONSULT Data Link Connector (Rx)	SCIRX	This is the data line used by the ECU to receive serial data from a Nissan CONSULT device.	-0.1V
8		EGR Temp Sensor	EGRTS	The EGR temperature sensor is provided on California engines or models with manual transmission. It is used to diagnose EGR flow related issues.	< 1.0V @ 1500 rpm with EGR valve fully open

9	 LG/R	Cooling Fan Relay (low speed)	RFRL	The ECU will provide ground to this relay when it needs to operate the cooling fans at low speed. Also, it will provide battery voltage to this relay when it needs to turn OFF the cooling fans.	0.7V BATTERY VOLTAGE (11 - 14V)
10	 LG	Cooling Fan Relay (high speed)	RFRH	The ECU will provide ground to this relay when it needs to operate the cooling fans at high speed. Also, it will provide battery voltage to this relay when it needs to turn OFF the cooling fans.	0.7V BATTERY VOLTAGE (11 - 14V)
11	 Y/L	Air Conditioner Relay	ACRLY	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 OFF the relay.	0.7V BATTERY VOLTAGE (11 - 14V)
12	 BR/W	Automatic Transmission Data Line #3	DT3	This A/T data transmission line #3 is used in conjunction with DT1 & DT2 to control the smooth shifting up and down of the AT during hard acceleration and deceleration.	0V
13	 B	ECM Ground	GND	This ECU ground comes from two engine grounding points located at the topside of the upper intake manifold.	Engine ground
14	 Y	CONSULT Data Link Connector (Clk)	SCICL	This is the data line used by the ECU to clock serial data to and from a CONSULT device.	~3.5V
15	 Y/B	CONSULT Data Link Connector (Tx)	SCITX	This is the data line used by the ECU to transmit serial data from a CONSULT device.	~4 - 9V
16	 OR	Mass Airflow Sensor	QA+	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	 W	Mass Airflow Sensor Ground	QA-	This ground is provided by the ECU solely for the MAF.	0V
18	 L/OR	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	 W	Oxygen Sensor	O2	When the ECU enters O2 sensor mixture feedback called closed loop, it will continuously monitor that this sensor's output voltage swings between 0 -1 volts. When the engine is running at stoichiometric (AFR = 14.7), it should swing at least five (5) times across the centerline of 0.5 volts (500 mV) within ten (10) seconds. Changes outside these parameters causes the ECU to identify areas needing long term fuel trim corrections.	0 - Approximately 1.0V 
20	 W	Throttle Position Sensor	TVI1	This DC voltage varies with the position of the throttle plate. The 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	 B	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	 L	Camshaft Position Sensor (Reference signal)	REF	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	 GY/R	CONSULT Data Link Connector (?)	?	UNKNOWN	
24	 OR	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		N/A		This connection has no pinout.	
26		N/A		This connection has no pinout.	
27	 W	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	 W/R	Throttle Position Sensor Output	TVO1	This is the throttle position voltage which the ECU relays over to the AT control unit.	Throttle position, Fully Close: 0.2-0.6V, Fully Open: 2.0-3.9V
29	 B	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
30	 L	Camshaft Position Sensor (Reference signal)	REF	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 paired with pin 22 and has the same functionality.	0.2 - 0.4V 
31	 L	Camshaft Position Sensor (Position signal)	POS	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	 Y/G	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 - /V 
33	 L/R	Rear Window Defogger Switch	R/DEF	The ECU senses the rear window defogger relay to determine when the defoggers are operating so that it can make adjustments to the added electrical load.	Approximately 0.1V BATTERY VOLTAGE (11 - 14V)

34		Start Signal	STSW	The ignition switch provides battery power to this pin to tell the ECU to go into START mode.	Approximately 0.1V
					BATTERY VOLTAGE (11 - 14V)
35		Park/Neutral Position Switch	PNPSW	The ECU senses the ground from this switch when the transmission is either in Park or Neutral.	Gear selector position, Neutral: 0.1V, not-Neutral: ~6.0V
36		Ignition Switch	IGNSW	The ignition switch provides battery power to this pin to tell the ECU that the ignition switch is ON or STARTing.	Approximately 0.1V
					BATTERY VOLTAGE (11 - 14V)
37		Throttle Position Sensor Power Supply	TPSPS	This is the 5V reference that the ECU provides to the TPS.	Approximately 5.0V
38		Power Supply for ECM	VB	This power comes from the ECM relay to energize the ECM, and the MAF and CMP sensors. It is available when the ignition switch is set to ON. This wire is also paired with pin 47.	BATTERY VOLTAGE (11 - 14V)
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)	POS	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 paired up with pin 31 and has the same functionality.	Approximately 2.3 - 2.5V 
41		Air Conditioner Switch	A/C SW	This signal informs the ECU when the A/C is switched ON (~0.1V). The ECU response by increasing idle speed to improve idling and reduce emissions. During heavy engine load, the ECU will turn OFF the A/C clutch relay to disengage the A/C clutch.	A/C switch position, ON: 0.1V, OFF: ~11-14V
42		Automatic Transmission Data Line #1	DT1	This A/T data transmission line #1 is used in conjunction with DT2 & DT3 to control the smooth shifting up and down of the AT during hard acceleration and deceleration.	6 - 8V
43		Power Steering Pressure Switch	PWST	The ECU senses this switch to detect when the steering wheel is turning at low speeds. It will quickly increase the idle to compensate for the additional engine load.	Steering wheel position, Turning: 0.1V, Straight: ~8.0V
44		Automatic Transmission Data Line #2	DT2	This A/T data transmission line #2 is used in conjunction with DT1 & DT3 to control the smooth shifting up and down of the AT during hard acceleration and deceleration.	6 - 8V
45		Air conditioning Triple-pressure switch	ARCON	This signal informs the ECU when the A/C liquid tank is under- or over-pressurized. It also controls the cooling fans operation to equalize the pressure buildup.	Triple-pressure position, ON: 0.1V, OFF: ~7.0V
46		Power Supply (Back-up)	BATT	This battery power is provided to the ECU at all times. This wire is also paired up with pin 109. The ECU also uses this power to perform battery voltage compensation internally.	BATTERY VOLTAGE (11 - 14V)
47		Power Supply for ECM	VB	This power comes from the ECM relay to energize the ECM, and the MAF and CMP sensors. It is available when the ignition switch is set to ON. This wire is also paired with pin 38.	BATTERY VOLTAGE (11 - 14V)

48	 B	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	 BR	Injector #1	INJ#1	This is the ECU provided pulsewidth signal for injector #1.	BATTERY VOLTAGE (11 - 14V) 
102	X	N/A	X	No pinout connection.	X
103	 BR/Y	Injector #3	INJ#3	This is the ECU provided pulsewidth signal for injector #3.	BATTERY VOLTAGE (11 - 14V) 
104	 B/Y	Fuel Pump Relay	FPR	This ECU provided ground enables the fuel pump relay during fuel pump priming (5 seconds) or while the engine is running. The <u>only</u> time it goes to battery voltage is after the fuel pump priming function.	Approximately 0.8V
105	 LG	EGR/Canister Solenoid Control Valve	EGR	This ECU provided ground enables the EGR/Canister solenoid. This will in turn let a vacuum signal can pass through it to reach the EGR valve. This vacuum will also reach the charcoal canister to purge it of some stored fuel vapors.	0.7V
106	X	N/A	X	No pinout connection.	X
107	 B	ECM Ground	GND	This ECU ground comes from two engine grounding points located at the topside of the upper intake manifold.	Engine ground
108	 B	ECM Ground	GND	This ECU ground comes from two engine grounding points located at the topside of the upper intake manifold.	Engine ground
109	 W	Power Supply (Back-up)	BATT	This battery power is provided to the ECU at all times. This wire is also paired up with pin 46.	BATTERY VOLTAGE (11 - 14V)
110	 BR/W	Injector #2	INJ#2	This is the ECU provided pulsewidth signal for injector #2.	BATTERY VOLTAGE (11 - 14V) 
111	X	N/A	X	No pinout connection.	X

112	 BR	Injector #4	INJ#4	This is the ECU provided pulsewidth signal for injector #4.	<p>BATTERY VOLTAGE (11 - 14V)</p> 
113	 SB	IACV-AAC Valve	ISC	This is the Idle Air Control Valve - Auxiliary Air Control Valve duty cycle signal that controls the idle speed.	<p>1 - 12V</p> 
114	X	N/A	X	No pinout connection.	X
115	X	N/A	X	No pinout connection.	X
116	 B	ECM Ground	GND	This ECU ground comes from two engine grounding points located at the topside of the upper intake manifold.	Engine ground

1993 - 1994 Nissan Altima ECU

Circuit Diagram

