2009 Toyota RAV4 (Smart Key) - North America

Wiring Information

Item	Wire Color	Polarity	Wire Location
12 Volts	white (120A or 140A)	+	dash fuse box, white 1 pin plug (IG), pin 1
Starter	white or red	+	Body ECU on back of dash fuse box, white 19 pin plug, pin 14 or 4
Ignition	yellow	+	dash fuse box, white 8 pin plug (IF), pin 4
Second Ignition	pink	+	dash fuse box, white 8 pin plug (IF), pin 3
Accessory	white	+	dash fuse box, white 8 pin plug (IF), pin 5
PTS 1	white	-	engine start stop switch, black 14 pin plug, pin 7
PTS 2	black	-	engine start stop switch, black 14 pin plug, pin 2
CAN Bus High	black	data	data link connector, white 16 pin plug, pin 6
CAN Bus Low	white	data	data link connector, white 16 pin plug, pin 14
RX DATA	white	data	engine start stop switch, black 14 pin plug, pin 10
TX DATA	blue	data	engine start stop switch, black 14 pin plug, pin 9
IMMO Data	lt. green (IMO)	data	high behind dash fuse box, white 20 pin plug, pin 19
IMMO Data 2	pink (IMI)	data	high behind dash fuse box, white 20 pin plug, pin 8
Security Light	yellow	+	security light, white 14 pin plug, pin 10
Power Lock	pink	-	driver kick, white 12 pin plug, pin 3
Power Unlock	black	-	driver kick, white 12 pin plug, pin 8
Lock Motor	red	5 wire	driver kick, white 12 pin plug, pin 6
Driver Unlock Motor	black	5 wire	driver kick, white 12 pin plug, pin 11
Passenger Unlock Motor	black	5 wire	dash fuse box, white 18 pin plug (IH), pin 18
Factory Alarm Arm	blue (driver door key lock)	-	driver kick, white 12 pin plug, pin 4
Factory Alarm Disarm	pink (driver door key unlock)	double -	driver kick, white 12 pin plug, pin 9
Disarm No Unlock	(proximity key and push button)		

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Item	Wire Color	Polarity	Wire Location
Parking Lights (+)	green	+	dash fuse box, white 30 pin plug (IA), pin 10
Parking Lights (-)	white	-	headlight switch, white 20 pin plug, pin 18
Hazards	gray	-	hazard switch, gray 4 pin plug, pin 4
Turn Signal (Left)	yellow	+	dash fuse box, white 30 pin plug (IA), pin 27
Turn Signal (Right)	blue	+	dash fuse box, white 30 pin plug (IA), pin 28
Headlight	blue	-	headlight switch, white 20 pin plug, pin 20
AutoLights	green (interrupt to turn off)	-	headlight switch, white 20 pin plug, pin 19
Reverse Light	red	+	dash fuse box, white 30 pin plug (IA), pin 30
Left Front Door Trigger	white	-	dash fuse box, white 30 pin plug (IA), pin 21
Right Front Door Trigger	brown	-	dash fuse box, white 16 pin plug (IC), pin 14
Left Rear Door Trigger	lt. blue	-	driver kick, white 20 pin plug, pin 13
Right Rear Door Trigger	lt. green	-	dash fuse box, white 14 pin plug (ID), pin 7
Dome Light	white or white/pink	-	dash fuse box, white 6 pin plug (IK), pin 2
Trunk/Hatch Pin	lt. green	-	dash fuse box, white 30 pin plug (IA), pin 7
Trunk/Hatch Release	(locks/unlocks along with doors)		
Tachometer	gray	ac	data link connector, white 16 pin plug, pin 9
Fuel Pump	yellow	+	dash fuse box, white 30 pin plug (IA), pin 8
Rear Defroster	black	- latched	dash fuse box, rear, white 13 pin plug (IQ), pin 12
Mirror Defroster	(same as rear defroster)		
Left Front Heated Seat	red	+ latched	seat heater switch, black 8 pin plug, pin 6
Right Front Heated Seat	blue	+ latched	seat heater switch, black 8 pin plug, pin 3
Speed Sense	purple	ac	radio, white 20 pin plug, pin 3
Brake Wire	blue	+	brake switch or dash fuse box, white 30 pin plug (IA), pin 9
Parking Brake	black	-	dash fuse box, white 14 pin plug (ID), pin 4

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Item	Wire Color	Polarity	Wire Location
Horn Trigger	lt. green	-	horn switch or dash fuse box, white 32 pin plug (IE), pin 25
Wipers	black (LO); red (HI); blue (ignition)	+	wiper switch, white 10 pin plug, pins 3, 4, 2
Left Front Window (Up/Down)	(motor is part of module)		
Right Front Window (Up/Down)	green - brown	A	driver kick, white 18 pin plug, pins 8 - 17
Left Rear Window (Up/Down)	red - blue	A	driver kick, white 12 pin plug, pins 5 - 10
Right Rear Window (Up/Down)	green - brown	A	driver kick, white 12 pin plug, pins 7 - 12
Sun Roof (Open/Close)	gray - green (function with ignition on only)	-	sunroof switch, black 12 pin plug, pins 9 - 8
Radio 12V	blue	+	radio, white 10 pin plug, pin 4 or white 20 pin plug, pin 1
Radio Ground	brown	-	radio, white 10 pin plug, pin 7 or white 20 pin plug, pin 20
Radio Ignition	gray	+	radio, white 10 pin plug, pin 3 or white 20 pin plug, pin 11
Radio Illumination	green (parking lights); brown (dimmer)	+,-	radio, white 10 pin plug, pin 10; white 6 pin plug, pin 5
Power Antenna	black	+	radio, white 10 pin plug, pin 8 or white 20 pin plug, pin 13
Left Front Speaker (+/-)	pink - purple	+,-	radio, white 10 pin plug, pins 2 - 6
Right Front Speaker (+/-)	lt. green - blue	+,-	radio, white 10 pin plug, pins 1 - 5
Left Rear Speaker (+/-)	black - yellow	+,-	radio, white 6 pin plug, pins 2 - 6
Right Rear Speaker (+/-)	red - white	+,-	radio, white 6 pin plug, pins 1 - 3
Subwoofer (+/-)	black - green (1); pink - purple (2)	+,-	amplifier in right rear quarter panel, white 12 pin plug, pins 5 - 12; 4 - 10
Aux. Audio Input Left (+/-)	black - red	+,-	radio, white 20 pin plug, pins 17 - 16
Aux. Audio Input Right (+/-)	white - red	+,-	radio, white 20 pin plug, pins 15 - 16

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What Fits

Item	Size	Depth	Location
Headunit	irregular		center of dash
Left Front Speaker	6.3		left front door
Left Front Tweeter	2.6		left front door
Right Front Speaker	6.3		right front door
Right Front Tweeter	2.6		right front door
Left Rear Speaker	6.3		left rear door
Right Rear Speaker	6.3		right rear door
Subwoofer	7.9		rear tailgate
Satellite Radio Tuner	(built into radio on some models)		under passenger seat (on the others)

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Additional Wiring Notes

Item	Note
Left Front Speaker (+/-)	On vehicles with amplifier, the speaker wires are pink - purple at the amplifier in right rear quarter panel, white 12 pin plug, pins 2 - 1. The tweeter wires are pink - purple at the amplifier, white 10 pin plug, pins 8 - 7.
Left Rear Speaker (+/-)	On vehicles with amplifier, the speaker wires are black - yellow at the amplifier in right rear quarter panel, white 10 pin plug, pins 3 -9.
Power Lock	This wire is only needed if the door locks do not function with the aftermarket system while the vehicle is running. All other times just use the factory alarm arm wire.
Power Unlock	This wire is only needed if the door locks do not function with the aftermarket system while the vehicle is running. All other times just use the factory alarm disarm wire.
Radio Illumination	On JBL systems, they are in the white 20 pin plug, pins 2, 12.
Right Front Speaker (+/-)	On vehicles with amplifier, the speaker wires are lt. green - blue at the amplifier in right rear quarter panel, white 12 pin plug, pins 9 - 3. The tweeter wires are lt. green - blue at the amplifier, white 10 pin plug, pins 2 - 6.
Right Rear Speaker (+/-)	On vehicles with amplifier, the speaker wires are red - white at the amplifier in right rear quarter panel, white 10 pin plug, pins 10 - 4.