AEM

Installation Instructions for:
EMS P/N 30-6620
1989-1998 Nissan Skyline RB26DETT
1993-1998 Nissan Skyline RB25DETT
1989-1994 Nissan Skyline RB20DET
1990-1995 Nissan 300ZX VG30DE, VG30DETT
1992-1994 Nissan Maxima VE30DE
1994-1996 Nissan Silvia SR20DET (Except Europe)
1988-1990 Nissan Silvia S13 CA18DET
1988-1990 Nissan 180SX CA18DET

Note: Part number 30-6620 supersedes and replaces p/n 30-1620, 30-1621, and 30-1622.

Vehicle	Series I EMS	Series II EMS
1989-1998 Nissan Skyline (RB26DETT)	1621/U	6620
1993-1998 Nissan Skyline (RB25DETT)	1621/U	6620
1989-1994 Nissan Skyline (RB20DET)	1621/U	6620
1991-1995 Nissan 300ZX (VG30DETT, VG30DE)	1620/U	6620
1992-1994 Nissan Maxima (VE30DE)	1620/U	6620
1994-1996 Nissan Silvia S14 (SR20DET)	1622/U	6620
1988-1990 Nissan Silvia S13 (CA18DET)	1622/U	6620
1988-1990 Nissan 180SX (CA18DET)	1622/U	6620

Thank you for purchasing an AEM Engine Management System.

The AEM Engine Management System (EMS) is the result of extensive development on a wide variety of cars. Each system is engineered for the particular application. The AEM EMS differs from all others in several ways. The EMS is a stand alone system, which completely replaces the factory ECU and features unique Plug and Play Technology, which means that each system is configured especially for your make and model of car without any jumper harnesses. There is no need to modify your factory wiring harness and in most cases your car may be returned to stock in a matter of minutes.

For stock and slightly modified vehicles, the supplied startup calibrations are configured to work with OEM sensors, providing a solid starting point for beginner tuning. For more heavily modified cars, the EMS can be reconfigured to utilize aftermarket sensors and has many spare inputs and outputs allowing the elimination of add-on rev-limiters, boost controllers, nitrous controllers, fuel computers, etc. It also includes a configurable onboard 1MB data logger that can record any 16 EMS parameters at up to 250 samples per second. Every EMS comes with all functions installed and activated; there is no need to purchase options or upgrades to unlock the full potential of your unit.

The installation of the AEM EMS on the supported vehicles uses the stock sensors and actuators. After installing the AEMTuner software, the startup calibration will be saved to the following folder on your PC:
C:\Program Files\AEM\AEMTuner\Calibrations\Nissan
Multiple calibrations may be supplied for each EMS; additional details of the test vehicle used to generate each calibration can be found in the Calibration Notes section for that file.

TUNING NOTES AND WARNING:
While the supplied startup calibration may be a good starting point and can save considerable time and money, it will not replace the need to tune the EMS for your specific application. AEM startup calibrations are not intended to be driven aggressively before tuning. We strongly recommend that every EMS be tuned by someone who is already familiar with the AEM software and has successfully tuned vehicles using an AEM EMS. Most people make mistakes as part of the learning process; be warned that using your vehicle as a learning platform can damage your engine, your vehicle, and your EMS.

Read and understand these instructions <u>BEFORE</u> attempting to install this product.

1) Install AEMTuner software onto your PC
The latest version of the AEMTuner software can be downloaded from the AEMTuner section of the AEM Performance Electronics forums. Series 2 units are not supported by the older AEMPro tuning software.

2) Remove the Stock Engine Control Unit
  a) Access the stock Engine Control Unit (ECU). The Skyline ECU is located behind the passenger-side kick panel.
  b) Carefully disconnect the wiring harness from the ECU. Avoid excessive stress or pulling on the wires, as this may damage the wiring harness. Some factory ECUs use a bolt to retain the factory connectors, and it must be removed before the harness can be disconnected. There may be more than one connector, and they must all be removed without damage to work properly with the AEM ECU. Do not cut any of the wires in the factory wiring harness to remove them.
  c) Remove the fasteners securing the ECU to the car body, and set them aside. Do not destroy or discard the factory ECU, as it can be reinstalled easily for street use and troubleshooting.

3) Install the AEM Engine Management System
  a) Plug the factory wiring harness into the AEM EMS and position it so the wires are not pulled tight or stressed in any manner. Secure the EMS with the provided Velcro fasteners.
  b) Plug the comms cable into the EMS and into your PC.
  c) Turn the ignition on but do not attempt to start the engine.
  d) At the time these instructions were written, new EMS units do not require USB drivers to be installed on the PC. Windows
  e) With the AEMTuner software open, select **ECU>>Upload Calibration** to upload the startup calibration file (.cal) that most closely matches the vehicle's configuration to be tuned. Check the Notes section of the calibration for more info about the vehicle it was configured for. These files can be found in the following folder:
  C:\Program Files\AEM\AEMTuner\Calibrations\Nissan

  f) Set the throttle range: Select Wizards>>Set Throttle Range and follow the on-screen instructions. When finished, check that the 'Throttle' channel never indicates less than 0.2% or greater than 99.8%, this is considered a sensor error and may cause some functions including idle feedback and acceleration fuel to operate incorrectly.
  g) For Nissan vehicles, the OEM camshaft angle sensor's trigger disc must be removed and an AEM trigger disc must be installed before attempting to start the engine. Please see pg. 7 for more info.

4) Ready to begin tuning the vehicle.

a) Before starting the engine, verify that the fuel pump runs for a couple of seconds when the key is turned on and there is sufficient pressure at the fuel rail.
If a MAP sensor is installed, check that the Engine Load indicates something near atmospheric pressure (approximately 101kPa or 0 PSI at sea level) with the key on and engine off. Press the throttle and verify that the 'Throttle' channel responds but the Engine Load channel continues to measure atmospheric pressure correctly.

b) Start the engine and make whatever adjustments may be needed to sustain a safe and reasonably smooth idle. Verify the ignition timing: Select **Wizards>>Ignition Timing Sync** from the pull-down menu. Click the '*Lock Ignition Timing*' checkbox and set the timing to a safe and convenient value (for instance, 10 degrees BTDC). Use a timing light and compare the physical timing numbers to the timing value you selected. Use the *Sync Adjustment Increase/Decrease* buttons to make the physical reading match the timing number you selected.

Crankshaft timing marks are not labeled for some vehicles. Consult the factory service manual for more information. The diagram below shows labels for the R33 Skyline:
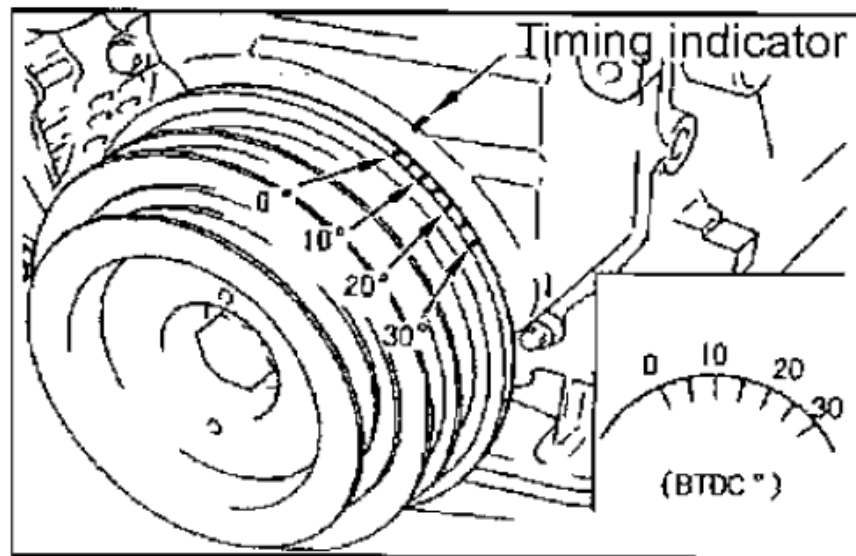
c) Note: This calibration needs to be properly tuned before driving the vehicle. It is intended for racing vehicles and may not operate smoothly at idle or part-throttle. **<u>NEVER TUNE THE VEHICLE WHILE DRIVING</u>**

5) Troubleshooting an engine that will not start

a) Double-check all the basics first… engines need air, fuel, compression, and a correctly-timed spark event. If any of these are lacking, we suggest checking simple things first. Depending on the symptoms, it may be best to inspect fuses, sufficient battery voltage, properly mated wiring connectors, spark using a timing light or by removing the spark plug, wiring continuity tests, measure ECU pinout voltages, replace recently-added or untested components with known-good spares. Check that all EMS sensor inputs measure realistic temperature and/or pressure values.

b) If the EMS is not firing the coils or injectors at all, open the Start tab and look for the 'Stat Sync'd' channel to turn ON when cranking. This indicates that the EMS has detected the expected cam and crank signals; if Stat Sync'd does not turn on, monitor the Crank Tooth Period and T2PER channels which indicate the time between pulses on the Crank and T2 (Cam) signals. Both of these channels should respond when the engine is cranking, if either signal is not being detected or measuring an incorrect number of pulses per engine cycle the EMS will not fire the coils or injectors.

c) If the Engine Load changes when the throttle is pressed this usually indicates that there is a problem with the MAP sensor wiring or software calibration (when the EMS detects that the MAP Volts are above or below the min/max limits it will run in a failsafe mode using the TPS-to-Load table to generate an artificial Engine Load signal using the Throttle input). This may allow the engine to sputter or start but not continue running properly.

**Cam / Crank Angle Sensor: AEM trigger disc MUST be used

Discrepancies have been observed in the OEM cam/crank angle signals between model years and/or trim levels; to avoid confusion the Series 2 EMS does not support the OEM Nissan trigger pattern. A replacement trigger disc is now included with every Nissan EMS and must be installed before attempting to start the engine. Two discs are supplied with each 30-6620 EMS: one disc fits the CAS sensor found on RB, VG, CA and VE engines, the other disc fits SR and '99-'03 Skyline GTR sensors. Please consult the following instructions supplement, which will be installed to the C:\Program Files\AEM\AEMTuner\Instructions folder:

'10-6600-B for EMS - 30-66XX supplement- CAS trigger install RB and SR engines.PDF'
'10-6620-A for EMS - 30-6620 supplement- CAS trigger install RB, VG and VE engines.PDF'

Engine Wiring Harnesses, 'swapped' engine installations

Many Nissan wiring harnesses have been found to contain significant differences between model years and/or trim levels. Likely differences include: Crank signal, Cam signal, Ignition switch wiring (the Ignition switch input controls the Main Relay output), injector and coil destinations. Official documentation for many of these vehicles was not offered in English, so it would be very wise to double-check the pinout destinations for these circuits. This is especially true if the vehicle contains a 'swapped' engine or if the wiring harness has been cut, spliced, soldered, re-routed, re-pinned or modified in any other manner. It is the user's responsibility to check that the wiring on the vehicle matches the pinout chart contained in this instruction manual. AEM will not be held responsible for loss or damage that can occur if the EMS is installed in a vehicle in which the wiring harness does not match the AEM-supplied pinout chart!

The function of several pins have been changed from the original 30-1620, 30-1621, and 30-1622 EMS, please see the pinout chart for more info.

Primary Load Sensor, EMS Fuel Strategy

The factory MAF (mass air flow) sensor(s) can be removed to help decrease intake air restriction; the EMS can be configured to use a MAP sensor to determine engine load.
It is recommended to use a 3.5 bar MAP sensor or higher (P/N 30-2130-50).
The factory Mass Air Flow sensor can be used as the primary load input for the AEM EMS if desired (the EMS will only use one MAF sensor for fuel calculations even if the vehicle is equipped with two). Please check the Notes section of each calibration for more info about the vehicle setup and fuel strategy that calibration was configured to use.

EMS Fuel Map, Boost Fuel Trim Table

The 30-6620 maps provided utilize the *"Boost Fuel Trim Table"* to provide a 1:1 fuel compensation above and below atmospheric pressure. In the startup calibration, the *"Boost Fuel Trim Table"* is configured to provide twice as much fuel when the manifold pressure is twice as high and half the fuel when the manifold pressure is half as high; this should help simplify the tuning process for different vacuum and boost levels. Notice the values in the main *"Fuel Map"* do not change above 100 kPa (0 psi boost), the fuel correction is being made by the *"Boost Fuel Trim Table."*
Note: the *"Boost Fuel Trim Table"* must be adjusted if a different MAP sensor is installed or if the Load breakpoints are adjusted. The Boost Fuel Trim value should be set to -90 at 10kPa, 0 at 100 kPa, +100 at 200 kPa, +200 at 300 kPa, etc…

Peak and Hold Injector Drivers

Injectors 1-6 include Peak (4 amps) and Hold (1 amp) injector drivers. These drivers may be used with peak and hold or saturated type injectors. The factory Nissan wiring harness may contain a resistor pack to prevent excessive current when using low-impedance injectors with the stock ECU. With the 30-6620 installed, users can elect to remove and bypass the OEM resistor pack for more precise control of low-impedance injectors.

Please note that the injector response time will be different with and without the factory injector resistor pack. If the OEM resistor pack has been removed and bypassed, please use the correct battery offset wizard for your injectors. Most battery offset wizards will specify <P&H DRIVER> if they are intended for use without a resistor pack.

Wiring accessories to the EMS:

Please follow this suggested wiring diagram when adding accessories such as UEGO gauges, MAP sensors, IAT sensors, or switches for use with the EMS. Note that wire polarity is not important for the Air Temperature sensor.
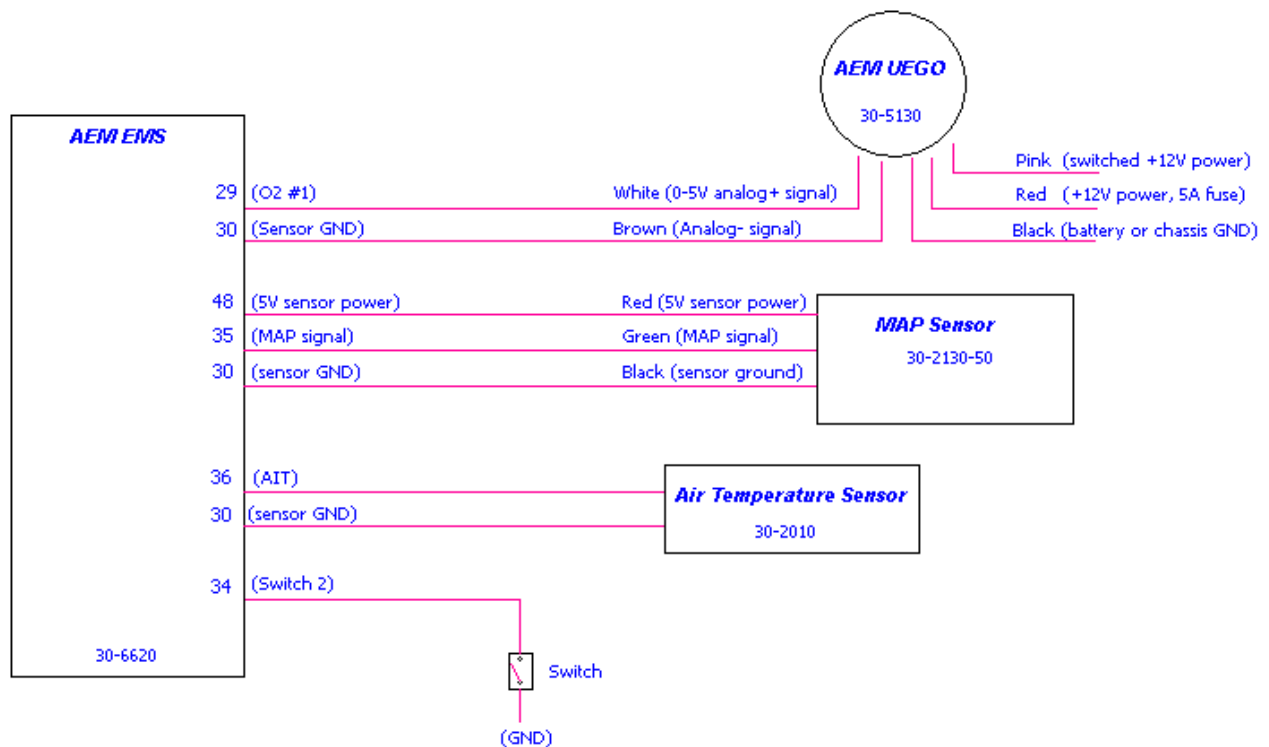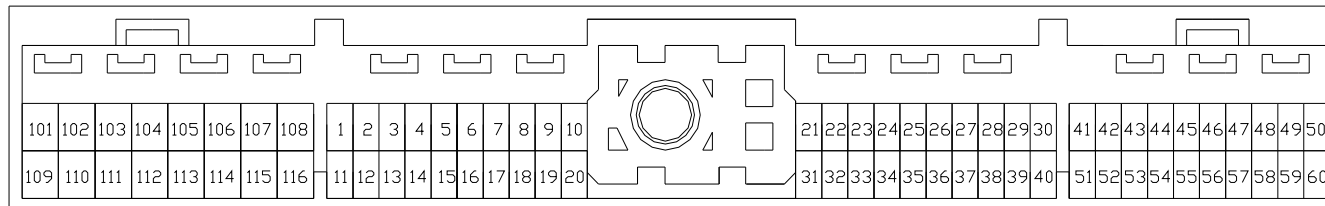
Connection Diagram for EMS P/N 30-6620

PnP	These pins are used in the AEM-supplied startup calibration. They can be reconfigured by the end user.
Available	Not used by the startup calibration. Modifications to the OEM wiring may be required before use.
Dedicated	The location of these pins is fixed and must not be changed.

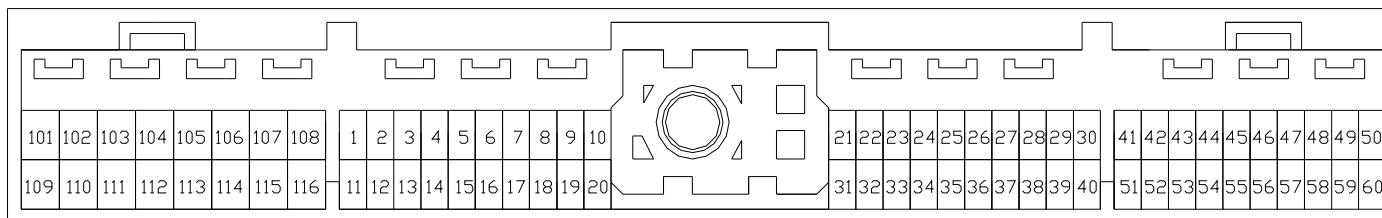| Pin	'89-'98 Nissan Skyline RB26DETT, '93-'98 Nissan Skyline RB25DET, '89-'94 Nissan Skyline RB20DET	1990-1995 Nissan 300ZX VG30DE, VG30DETT, 1992-1994 Nissan Maxima VE30DE	'94-'96 Nissan Silvia S14 SR20DET, '88-'91 Nissan Silvia S13 CA18DET, '89-'93 Nissan 180SX CA18DET	AEM EMS 30-6620	I/O	Notes
1	Ignition 1	Ignition 1	Ignition 1	Coil 1	Output	PnP for Coil 1, 0-5V rising edge trigger
2	Ignition 5	Ignition 2	Ignition 2	Coil 5	Output	PnP for Coil 5, 0-5V rising edge trigger
3	Ignition 3	Ignition 3	Ignition 3 (CA18DET only)	Coil 3	Output	PnP for Coil 3, 0-5V rising edge trigger
4	AAC Valve	←	---	PW 1	Output	PnP for Idle Air Control, connects to Pin 106
5	A/T Control Unit	←	Wastegate Solenoid (JDM CA18 only)	PW 2	Output	PnP for Boost control, connects to Pin 25
6	Cooling Fan Relay (RB26DETT only)	Cooling Fan Sub Relay (300ZX Turbo Only)	Air Conditioner Relay (CA18DET only)	Low Side 5	Output	PnP for Cooling Fan (CA18DET only: PnP for AC)
7	Tachometer	←	←	Low Side 7	Output	PnP for Tachometer, internal pull-up resistor to 12V
8	---	AIV Solenoid (90-92 300ZX), Power Solenoid (Maxima)	Variable Butterfly Solenoid (JDM CA18DET only)	Low Side 12	Output	Available, switched Ground, 1.5A max
9	Air Conditioner Relay	←	←	Low Side 6	Output	PnP for A/C Compressor
10	ECM Ground	←	←	Power Ground	Input	Dedicated
11	Ignition 6	Ignition 4	Ignition 3 (SR20DET only) Ignition 4 (CA18DET only)	Coil 6	Output	PnP for Coil 6, 0-5V rising edge trigger
12	Ignition 2	Ignition 5	Ignition 4 (SR20DET only)	Coil 2	Output	PnP for Coil 2, 0-5V rising edge trigger
13	Ignition 4	Ignition 6	---	Coil 4	Output	PnP for Coil 4, 0-5V rising edge trigger
14	A/T Control Unit	←	←	Idle 5	Output	Avail, switched Ground / +12V, 1.5A Max
15	A/T Control Unit	←	←	Idle 6	Output	Avail, switched +12V / Ground, 1.5A Max
16	ECCS Relay control, Ignition Relay control	←	←	Main Relay (control)	Output	Dedicated, EMS activates relay with switched GND
17	---	Data Link Connector	Data Link Connector	Injector 7	Output	Avail, Switched Ground, 1.5A max
18	Fuel Pump Relay Control Signal	←	←	Low Side 1	Output	PnP for Fuel Pump
19	Power Steering Oil Pressure Switch	Cooling Fan Relay	Cooling Fan Relay (SR20DET only)	Low Side 3	Output	PnP for Cooling Fan
20	ECM Ground	←	←	Power Ground	Input	Dedicated

Wire View of AEM EMS

Connection Diagram for EMS P/N 30-6620

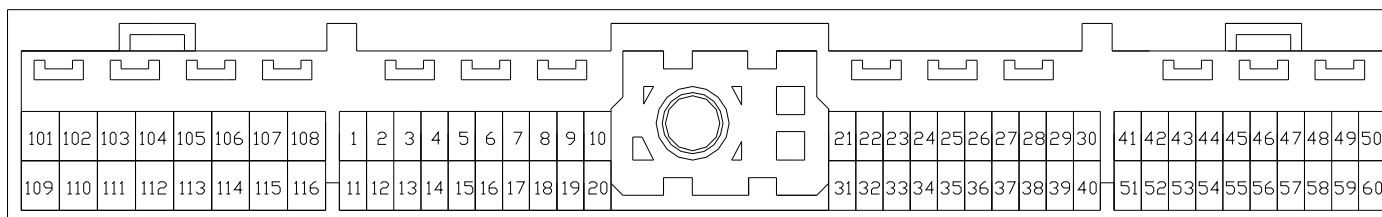| Pin	'89-'98 Nissan Skyline RB26DETT, '93-'98 Nissan Skyline RB25DET, '89-'94 Nissan Skyline RB20DET	1990-1995 Nissan 300ZX VG30DE, VG30DETT, 1992-1994 Nissan Maxima VE30DE	'94-'96 Nissan Silvia S14 SR20DET, '88-'91 Nissan Silvia S13 CA18DET, '89-'93 Nissan 180SX CA18DET	AEM EMS 30-6620	I/O	Notes
21	Diagnostics Receive Data	←	←	EGT 2	Input	Available, jumper set for 0-5V Input
22	Diagnostics Transmit Data	←	←	Switch 3	Input	Available, switch must connect to ground
23	Knock Sensor (Cylinders 1-3)	Knock Sensor	Knock Sensor	Knock 1	Input	Available, software knock filter
24	Knock Sensor (Cylinders 4-6)	---	---	Knock 2	Input	Available, software knock filter
25	Wastegate Valve Control Solenoid Signal	Wastegate Solenoids (300ZX TT Only)	Wastegate Solenoid (SR20DET only)	PW 2	Output	PnP for Boost control, connects to Pin 5
26	Mass Air Flow Sensor Ground	←	←	Power Ground	Input	Dedicated
27	Rear Mass Air Flow Sensor (RB26DETT)	Mass Air Flow Sensor	Mass Air Flow Sensor	MAF	Input	PnP for MAF Sensor
28	Engine Coolant Temperature Sensor	←	←	Coolant	Input	PnP for Engine Coolant Temp
29	Front Heated Oxygen Sensor Signal	Right Side Heated Oxygen Sensor	Heated Oxygen Sensor Signal	O2 #1	Input	Dedicated, 0-5V signal
30	Sensor Ground	←	←	Sensor Ground	Output	Dedicated
31	Diagnostics Clock	←	←	EGT 3	Input	Available, jumper set for 0-5V Input
32	Malfunction Indicator Lamp	←	←	Low Side Driver 10	Output	Avail, Switched Ground, 1.5A Max
33	Exhaust Temperature Light (RB25DET Only)	FICD Solenoid (300ZX Only)	Cooling Fan Hi Speed (SR20DET) / Diagnostics (CA18DET)	Injector 8	Output	PnP for Cooling Fan
34	Front Mass Air Flow Ground (RB26DETT)	Power Steering Oil Press sw	Power Steering Oil Press sw (SR20DET Only)	Switch 2	Input	Available, switch must connect to ground
35	Front Mass Air Flow Signal (RB26DETT)	Fuel Pump Voltage Control (300ZX Turbo Only)	Boost Pressure Sensor (SR20DET Only)	MAP	Input	Available, use this pin for Speed Density conversion
36	IAT Sensor (RB26) / FICD solenoid (RB25)	Fuel Temperature Sensor (300ZX Only)	---	AIT	Input	Avail, Air Temperature, 2.2kΩ pull-up resistor
37	---	---	Mass Air Flow Pin D (CA18DET-Non Catalytic Model Only)	ADCR14	Input	Avail, 0-5 Volt Input
38	Throttle Position Sensor	←	←	TPS	Input	PnP for Throttle Position signal
39	---	EGR Temperature Sensor	---	EGT 1	Input	Available, jumper set for 0-5V Input
40	---	---	---	CAN1H	---	Dedicated

Wire View of AEM EMS

Connection Diagram for EMS P/N 30-6620

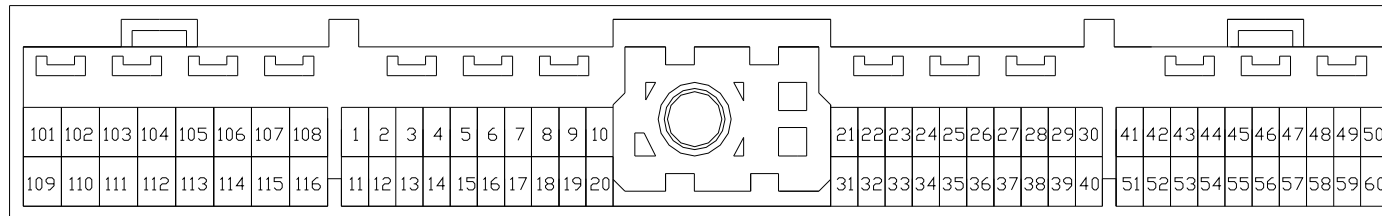| Pin	'89-'98 Nissan Skyline RB26DETT, '93-'98 Nissan Skyline RB25DET, '89-'94 Nissan Skyline RB20DET	1990-1995 Nissan 300ZX VG30DE, VG30DETT, 1992-1994 Nissan Maxima VE30DE	'94-'96 Nissan Silvia S14 SR20DET, '88-'91 Nissan Silvia S13 CA18DET, '89-'93 Nissan 180SX CA18DET	AEM EMS 30-6620	I/O	Notes
41	Camshaft Position Sensor Reference Signal	←	←	Cam Signal	Input	Dedicated, must use AEM replacement trigger disc (connects to pin 51)
42	Camshaft Position Sensor Signal	←	←	Crank Signal	Input	Dedicated, must use AEM replacement trigger disc (connects to pin 52)
43	Ignition Switch (start position)	←	←	+12V starting power	Input	Dedicated
44	Neutral Position Switch	←	←	Switch 4	Input	Available, switch must connect to ground
45	Ignition Switch	←	←	Main relay (input)	Input	Dedicated, +12V activates Main Relay circuit
46	Air Conditioner Switch	←	←	Switch 6	Input	PnP for A/C request switch
47	Diagnostics Check Signal	←	←	EGT 4	Input	Available, jumper set for 0-5V Input
48	+5V Sensor reference power	←	←	+5V Sensor	Output	Dedicated
49	Power Supply For ECM	←	←	+12V Switched	Input	Dedicated, +12V power when ECCS Relay is on
50	ECM Ground	←	←	Power Ground	Input	Dedicated
51	Camshaft Position Reference Signal	←	←	Cam Signal	Input	Dedicated, must use AEM replacement trigger disc (connects to pin 41)
52	Camshaft Position Sensor Signal	←	←	Crank Signal	Input	Dedicated, connects to Pin 42
53	Vehicle Speed Sensor Signal	←	←	T3 (Vehicle Speed)	Input	PnP for Vehicle Speed Sensor
54	Idle Position Switch	←	←	Switch 1	Input	Available, switch must connect to ground
55	Rear Heated Oxygen Sensor (RB26DETT)	Left Side Heated Oxygen Sensor	A/C FICD (CA18DET Only)	O2 #2	Input	Dedicated, 0-5V signal
56	Throttle Sensor Output Signal	Throttle Sensor Output Signal (Auto Trans only)	Throttle Sensor Output Signal (Auto Trans only)	TPS Out	Output	Dedicated, for use with GT-R auxiliary devices (Attesa AWD control, Dashboard display)
57	Power source for Idle Position switch	←	Power for Idle Position switch (CA18DET)	CAN1L	Output	Dedicated
58	Power Supply Back-Up	←	←	Permanent +12V	Input	Dedicated, backup power for internal datalog
59	Power Supply for ECM	←	←	+12V Switched	Input	Dedicated, +12V power when ECCS Relay is on
60	ECM Ground	←	←	Power Ground	Input	Dedicated

Wire View of AEM EMS

Connection Diagram for EMS P/N 30-6620

Pin	'89-'98 Nissan Skyline RB26DETT, '93-'98 Nissan Skyline RB25DET, '89-'94 Nissan Skyline RB20DET	1990-1995 Nissan 300ZX VG30DE, VG30DETT, 1992-1994 Nissan Maxima VE30DE	'94-'96 Nissan Silvia S14 SR20DET, '88-'91 Nissan Silvia S13 CA18DET, '89-'93 Nissan 180SX CA18DET	AEM EMS 30-6620	I/O	Notes
101	Injector 1	Injector 1	Injector 1	Injector 1	Output	PnP for Injector 1 (Peak & Hold 4A/1A driver)
102	---	EGR Control Solenoid Valve	EGR Control Solenoid Valve (SR20DET only)	Injector 12	Output	Avail, Switched Ground, 1.5A max (not Peak&Hold)
103	Injector 3	Injector 3	Injector 3	Injector 3	Output	PnP for Injector 3 (Peak & Hold 4A/1A driver)
104	Fuel Pump Voltage Control	←	---	ADCR11	Input	Available, 0-5 Volt Input
105	Injector 2	Injector 5	---	Injector 2	Output	PnP for Injector 2 (Peak & Hold 4A/1A driver)
106	Fuel Pump Voltage Control-2 (RB26DETT)	---	AAC Solenoid Valve	PW 1	Output	PnP for Idle Air Control, connects to Pin 4
107	ECM Ground	←	←	Power Ground	Input	Dedicated
108	ECM Ground	←	←	Power Ground	Input	Dedicated
109	Back Electromotive Current Feedback Circuit	Power Supply For ECM	Power (CA18) / Back-Up Power (SR20)	---	---	Not Used
110	Injector 5	Injector 2	Injector 2	Injector 5	Output	PnP for Injector 5 (Peak & Hold 4A/1A driver)
111	---	PRVR Control Solenoid Valve	PRVR Control Solenoid Valve (CA18)	Injector 9	Output	Avail, Switched Ground, 1.5A max (not Peak&Hold)
112	Injector 6 (RB20: Inj 4)	Injector 4	Injector 4	Injector 6	Output	PnP for Injector 6 (Peak & Hold 4A/1A driver)
113	VTC Solenoid Valve (RB25DET)	VTC Solenoid Valves	VTC Solenoid Valve (SR20DET only)	Injector 11	Output	Avail, Switched Ground, 1.5A max (not Peak&Hold)
114	Injector 4 (RB20: Inj 6)	Injector 6	---	Injector 4	Output	PnP for Injector 4 (Peak & Hold 4A/1A driver)
115	Oxygen Sensor Heater Control Signal	←	←	Injector 10	Output	Avail, Switched Ground, 1.5A max (not Peak&Hold)
116	ECM Ground	←	←	Power Ground	Input	Dedicated

Wire View of AEM EMS

30-1620 (Series 1) vs 30-6620 (Series 2) EMS differences:

The EMS functions assigned to certain pins have been changed and no longer match the 30-1620 EMS. Unless otherwise noted, the following pins and functions will need to be manually reconfigured after using AEMTuner to convert a V1.19 (30-1620, Series 1 EMS) calibration for use with the 30-6620 Series 2 hardware.

Pin	'89-'98 Nissan Skyline RB26DETT, '93-'98 Nissan Skyline RB25DET, '89-'94 Nissan Skyline RB20DET	1990-1995 Nissan 300ZX VG30DE, VG30DETT, 1992-1994 Nissan Maxima VE30DE	'93-'96 Nissan Silvia S14 SR20DET, '88-'91 Nissan Silvia S13 CA18DET, '89-'93 Nissan 180SX CA18DET	30-1620 function	30-6620 function	Notes
2	Ignition 5	Ignition 2	Ignition 2	Coil #2	Coil 5	Coil outputs reallocated for sequential ignition, Coil2 no longer wasted spark
8	---	AIV Solenoid (90-92 300ZX), Power Solenoid (Maxima)	Variable Butterfly Solenoid (JDM CA18DET only)	Coil #5	LS 12	Coil 5 moved to pin 2
11	Ignition 6	Ignition 4	Ignition 3 (SR20DET only) Ignition 4 (CA18DET only)	Coil #1	Coil 6	Coil outputs reallocated for sequential ignition, Coil1 no longer wasted spark
13	Ignition 4	Ignition 6	---	Coil #3	Coil 4	Coil outputs reallocated for sequential ignition, Coil3 no longer wasted spark
18	Fuel Pump Relay Control Signal	←	←	LS #11	LS 1	LS 11 no longer available
40	---	---	---	Coil #4	CAN1H	Coil 4 moved to pin 13
56	Throttle Sensor Output Signal	Throttle Sensor Output Signal (Auto Trans only)	Throttle Sensor Output Signal (Auto Trans only)	HS #1	TPS Out	HS 1 no longer available
57	Power source for Idle Position switch	←	Power for Idle Position switch (CA18DET)	Idle #8	CAN1L	Idle 8 not available
102	---	EGR Control Solenoid Valve	EGR Control Solenoid Valve (SR20DET only)	Idle #7	INJ 12	Copy settings from Idle 7 to INJ12
113	VTC Solenoid Valve (RB25DET)	VTC Solenoid Valves	VTC Solenoid Valve (SR20DET only)	LS #08	INJ 11	Copy settings from LS 8 to INJ11

AEM Electronics Warranty

Advanced Engine Management Inc. warrants to the consumer that all AEM Electronics products will be free from defects in material and workmanship for a period of twelve months from date of the original purchase. Products that fail within this 12-month warranty period will be repaired or replaced when determined by AEM that the product failed due to defects in material or workmanship. This warranty is limited to the repair or replacement of the AEM part. In no event shall this warranty exceed the original purchase price of the AEM part nor shall AEM be responsible for special, incidental or consequential damages or cost incurred due to the failure of this product. Warranty claims to AEM must be transportation prepaid and accompanied with dated proof of purchase. This warranty applies only to the original purchaser of product and is non-transferable. All implied warranties shall be limited in duration to the said 12-month warranty period. Improper use or installation, accident, abuse, unauthorized repairs or alterations voids this warranty. AEM disclaims any liability for consequential damages due to breach of any written or implied warranty on all products manufactured by AEM. Warranty returns will only be accepted by AEM when accompanied by a valid Return Merchandise Authorization (RMA) number. Product must be received by AEM within 30 days of the date the RMA is issued.