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1.0

eSID 3
New Features

(Cable Kit sold separately)

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New Hardware Features

eSID2 was released in 2014 and the number of features has been increasing yearly since then. The remaining memory capacity of eSID2 made it impossible to continue increasing the number of features and support it all in one software variant.

The new eSID3 has a completely new hardware design with:

- New microcontroller with more memory
- Reduced quiescent current
- Configurable switch input interface
- Configurable output driver for LED or Relay
- New interface to set System Clock time when using non OEM radio/Nav.

The new interfaces are used by connecting additional wires to unused pins in the OBD-connector. The cables needed are sold separately in "eSID3 Cable Kit" (or you can build your own).

Original wiring

Output driver

Switch input

One cable to BCM for adjusting System Clock

NIGHTPANEL

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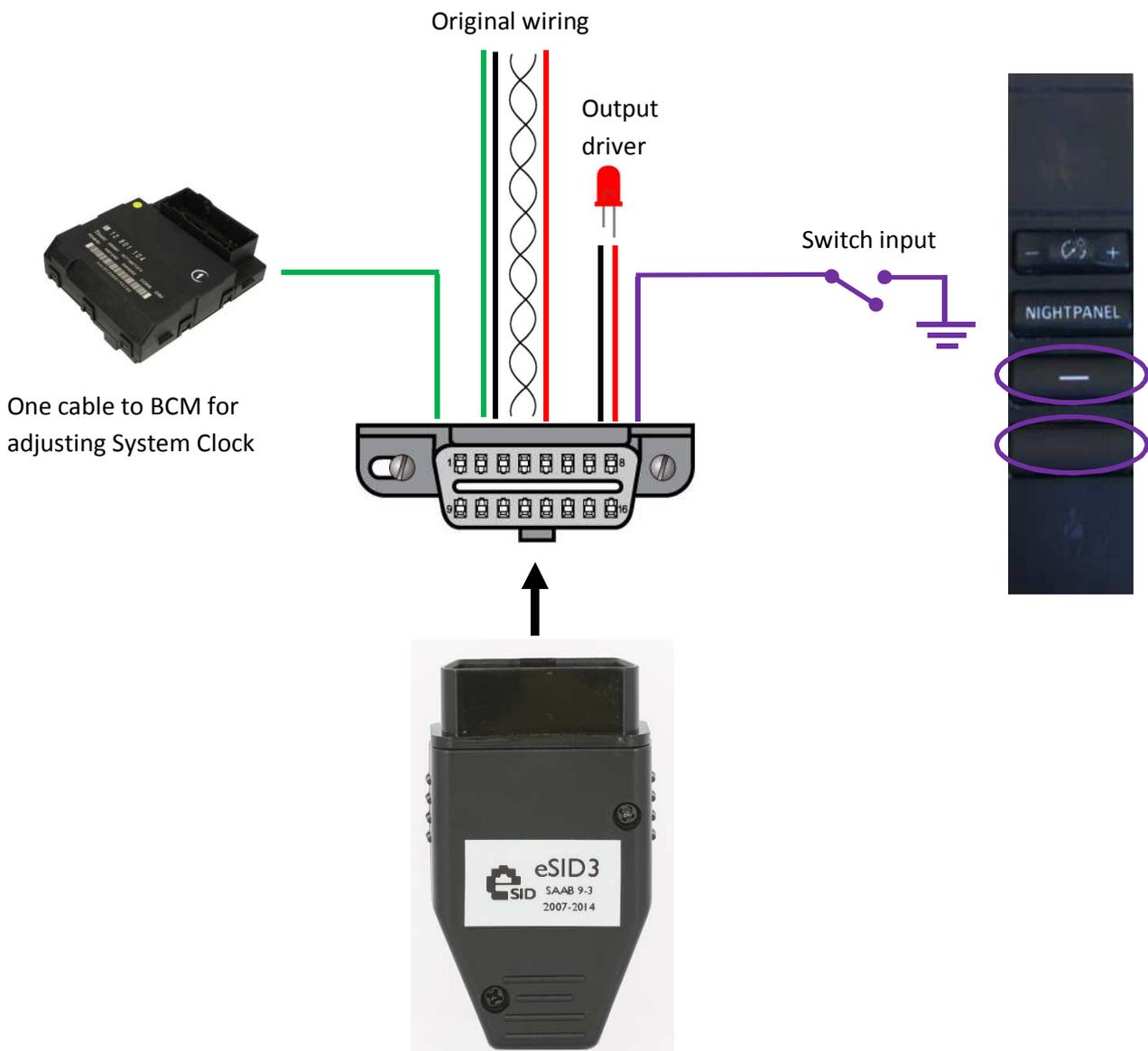
eSID Cable-Kit

The cable kit consists of four cables, and they are all intended to be connected into empty slots in the OBD-connector. All four cables have the correct OBD-terminal in one end.

- **Black** (Ground cable, open on the other end)
- **Red** (eSID 12V output pin , open on the other end)
- **Green** (for adjusting System Clock. The other end of the cable has already terminal to fit into an empty slot in the BCM connector. No cutting and splicing!)
- **Purple** (eSID Input cable for controlling the output pin. The other end has already terminal to fit into the IP-switch panel next to the Stereo/Navigation unit. No cutting and splicing!))

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New Software Features - General

Software update with MaptunerX

eSID3 is prepared for future software update with MaptunerX. No need to send eSID hardware to Sweden for update.

Quiescent Current

eSID3 quiescent current consumption in sleep mode is only 1.8 mA (80% reduction)

All Languages in one unit

eSID3 supports the following languages (all included and selectable by the user)

- English
- Swedish
- German
- French

Configurable digital output driver for LED/Relay

The eSID3 provides a configurable HSD (high-side driver) 12V output (max 200mA) to control a LED or a relay. The output is configured in "eSID Settings" and can be activated using:

- Ignition Key
- Vehicle Speed Threshold
- Engine Speed Threshold (for instance a shift-up lamp)
- Accelerator Pedal Position Threshold
- Reverse Gear
- Manual activation
- External CAN Interface (your own Arduino with CAN-shield or similar)

The manual activation can be done either by using the Long range lamp switch which already exist (slow reaction time, up to 3 sec) or connect a new wire from the switch panel directly to eSID (fast reaction time, < 0.15 sec).

The manual activation switch to connect to eSID could be the dummy switch (MT cars 2008-) or the Long range lamp switch (original cable removed and added new cable directly to eSID).

Display Icons in every view

Icons have been added in the upper right corner in every view (up to four icons, if it fits)

- Rainsensor/eSID Wiper function active
- Diesel Regeneration active
- Cold weather indication
- Actual gear on Automatic transmission
- eSID output driver active indication

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Aftermarket radio control

The background is this… I installed an aftermarket Alpine stereo in my 9-3 2009 together with the Connect2 unit/harness:

The connection schematics (CTSSA001.2) is this:
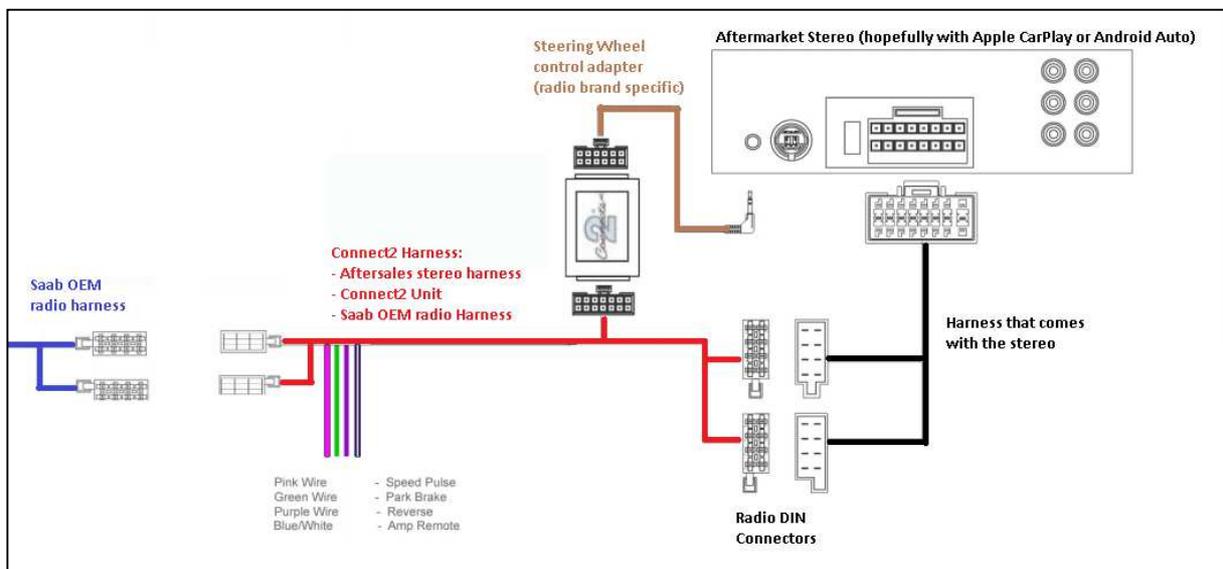
It works but I hate it! Here are the issues:

- The Connect2 unit cuts the power to the stereo when the Ignition Key is turned to LOCK
  (→ which happened every time to stop to drop someone off)
- The Connect2 unit only puts power on the "Reverse" pin on Automatic Transmission cars
  (→ not possible to automatically switch to reverse camera on MT cars)

With eSID3 you can modify the Saab OEM harness so that Connect2 listens to the normal I-bus instead of the Infotainment bus and the result is:

- The radio will stay on until the key is removed from Ignition Switch Module.
- The reverse pin from Connect2 will work on both MT and AT cars.
- The steering wheel answer/hang up switches will work on some stereos.
- The radio will only work when eSID3 is connected (Important Note!)

These are the steps needed to install (I installed a switch in my car so I could choose bus)

- Remove Infotainment-bus cable Pin 13 in connector K14 (Green):
- Splice new wire from ACC K18, Pin 16 and connect it to Radio K14 Pin13.

353/635 (K14)

F7A129X1

216 (K18)

F7A14ECCX1

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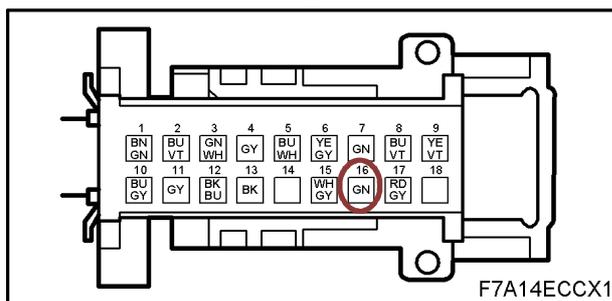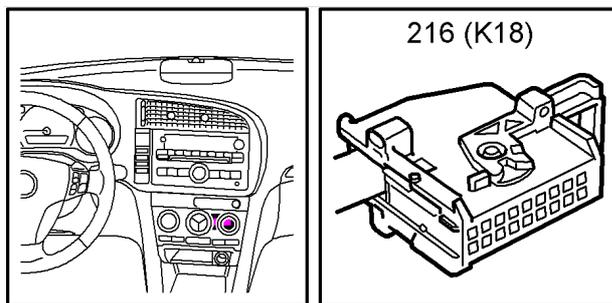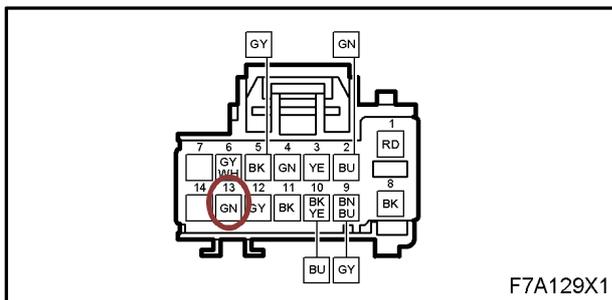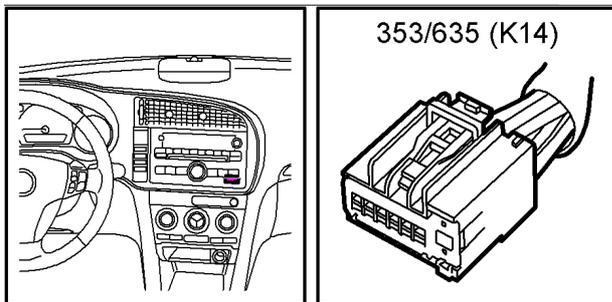
New Software Features – Powertrain group

Accumulated Fuel this cycle

This is a new counter that shows the amount of fuel this cycle. The cycle resets when key has been removed, inserted again and engine started.

Airmass (B207)

Two values are shown and the difference percentage between them. The user can change which parameters to compare (Requested, Measured and Calculated) by pressing SET.

Exhaust Temperature (Z19 with DPF)

Two values are shown, the exhaust temperature before and after the DPF.

Wastegate (B207, Z19)

The PWM control signals in percentage to the wastegate(s) are shown.

Ignition Angle (B207)

The ignition angle relative to TDC is shown in degrees.

Misfire (B207, B284)

Misfire counters per cylinder

Knock (B207)

Knock counters per cylinder

Fuel Pressure (Z19, B284)

On B284 also the PWM control signal to the pump driver is shown.

EGR / Swirl (Z19)

The amount of active EGR and Swirl is shown in percentage.

Estimated Oil Quality

The value used by the cluster to determine when it's time for service, shows estimated oil quality in percentage.

Engine Oil Pressure (B284)

Read from ECM which has an oil pressure sensor.

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New Software Features – Vehicle group

Accumulated distance this cycle

This is a new counter that shows the accumulated distance this cycle. The cycle resets when key has been removed, inserted again and vehicle started to move.

AC Pressure

The measured AC pressure is shown.

Interior Temperature

The measured temperature from the sensor in the roof is shown together with exterior temperature.

Fuel Level

Shows the estimated fuel level in liter/gallons and based on the fuel level sensor. Not very exact when tank is very full, but very good and useful when fuel level is below 50%.

Refuel Data

Shows the accumulated fuel and distance since last refuel (reset by an increase on Fuel Level with more than 3 liter).

Brake Distance

Shows the time, distance, start speed and end speed every time the brake pedal is pressed above 20 km/h. End speed is either 0 km/h or when the brake pedal is released.

Automatic Hazard activation

Every time the brake pedal is pressed and speed is higher than 30 km/h, the retardation is calculated and if it's greater than a threshold the car will automatically activate the hazard lights. eSID will continuously calculate and present how close the driver is to an activation (in percentage, where 100% is the threshold). Also the maximum measured value is always calculated in the background and shown together with the instantaneous value.

The threshold can be adjusted by selecting sensitivity in eSID Settings.

The hazard lights will be deactivated when the accelerator pedal is pressed more than 25% or any turn indicator is activated.

New Software Features – Favorites group

Number of customizable views increased to four

Now it's possible to configure 12 parameters (3 parameters x 4 views)

New customizable parameters

- Cruise Set Speed (B284)
- Automatic Transmission Actual Gear
  - Shows Gear (1-6) and if transmission is currently shifting or is in Lockup
- Short term fuel trim (B207, B284)
- Interior temperature
- Fuel Level
- Ignition Angle (B207)
- Automatic Hazard (instantaneous value)
- Fuel pressure (Z19, B284)
- EGR
- Swirl
- Engine Oil Pressure (B284)
- External CAN Interface Parameter 1-3 (see separate section)

New Software Features – Settings group

Welcome Message

eSID now suggests the same character as the one before when adjusting the welcome message to make it faster when configuring it.

Unlock Light Time

The time to have the "Unlock Light" activation active is now configurable up to 4 minutes.

Unlock Light Logic

Unlock light will now turn off if any door is opened (including trunk), not only the driver door.

Folding Mirrors

It is now possible to configure folding mirrors to "Short Press" or "Long Press" on Lock.

- Short Press: Same as eSID2, short press on Lock will fold in mirrors and short press on Unlock will unfold
- Long Press: Short press on Lock will lock the vehicle but not fold the mirrors. Long press will fold the mirrors (original function) and when pressing Unlock the mirrors will fold out. This makes it possible to choose when to fold the mirrors, and they will always fold out if being folded by the remote.

Heater Run time

If the heater is activated with the eSID using the remote it is now possible to select how long the heater shall run (30-90 minutes).

Digital Output Logic

This setting selects what function shall control the digital output

Digital Output Threshold

This setting selects what threshold activates the output (if logic is selected as "Engine Speed", the threshold corresponds to which Engine RPM the output is active)

Automatic Hazard Sensitivity

This setting selects the sensitivity: Off, Low, Medium or High. (High sensitivity and it will be easier to activate the automatic hazard function)

External CAN Interface Config Parameter

This setting sets a parameter that eSID transmits cyclic on the bus, with the intention that an external CAN device can listen to it and take necessary actions.
Note: This is for expert usage only, not for the normal user.

Adjusting System Clock

This is needed when the OEM radio unit has been replaced and the vehicles battery has been reset in order to get a working timer controller parking heater and service interval counter.

The eSID3 HW has been redesigned to make this much easier. Now you need to only connect one cable between the OBD connector and the BCM module (located above the drivers feet) and with the cable kit you already have the correct terminals in both ends, just plug it into an empty slot on two sides, takes no more than 10 minutes to complete.

OBD side
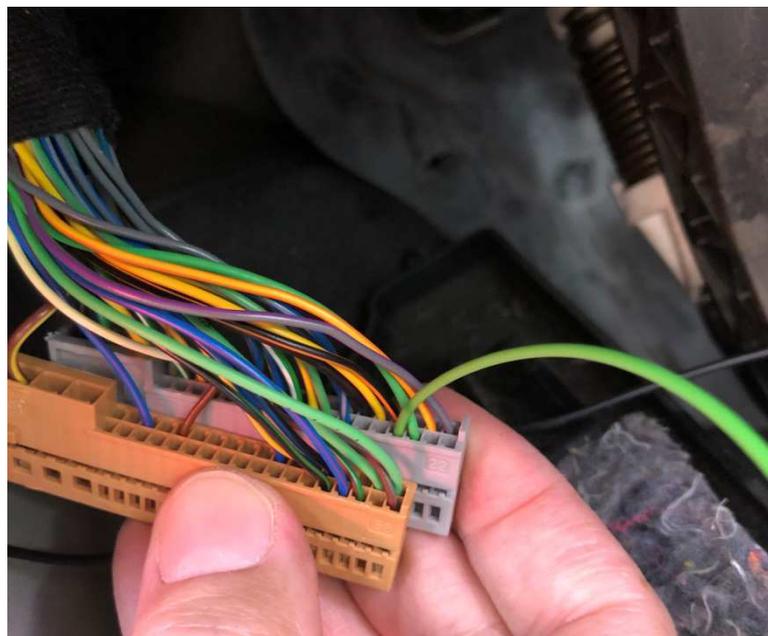
BCM side

External CAN Interface

Note: This is for expert usage only, not for the normal user.

eSID supports an external CAN interface where an external device can send text strings and data value on CAN for three external parameters that can be selectable in the Custom Views.

It is also possible to request the digital output active and select which character the icon shall have.

One user case could be that eSID3 provides power to an external node with its digital output, which then controls the three parameters on the display. Furthermore, eSID3 will provide the status of the digital input on CAN, if the external device needs an input for anything.