



# UpRev User Guide

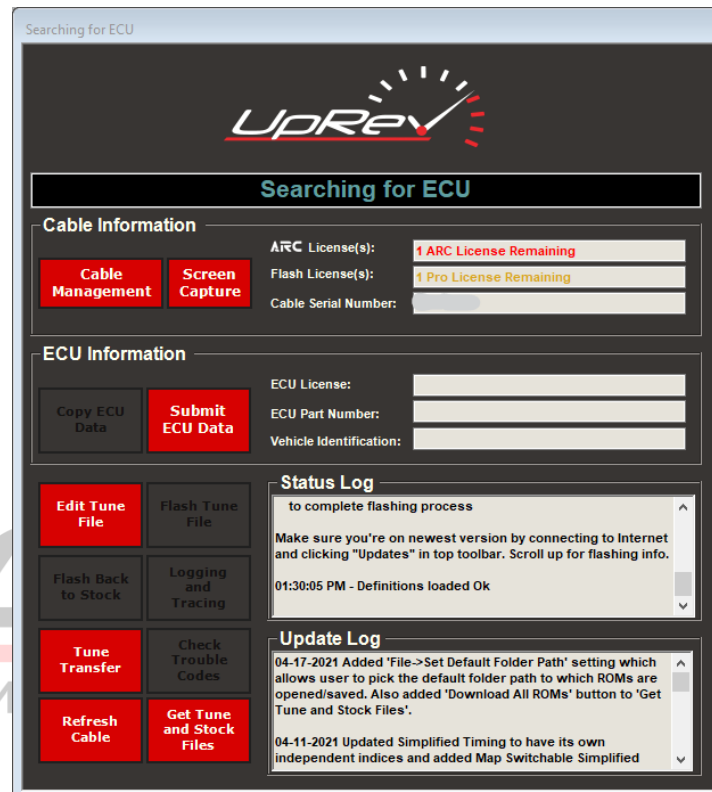
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This guide was written with the assumption that the reader is experienced with computers and has a solid understanding of computers.

## 1. Knowing Which ROM to use

To find out which ROM should be used on a given vehicle, check the ECU part number with the UpRev ROM Editor. The ECU part number is displayed by the ROM editor when the ECU is turned on and the cable establishes communication with the ECU. The part number will automatically be displayed in the "ECU Part Number" section once the communication is established.



Once the ECU part number has been identified click the "Get Tune and Stock Files" button. Type the last 5 digits of your ECU part number into the pop-up window. The software will automatically fetch the latest master ROM available for the application. Select the ROM and download it to the destination folder.

## 2. ROM Dumps & Submitting ECU Data

If the ECU part number on the vehicle being tuned is unavailable for tuning the user will need to copy the ECU data and submit it to UpRev. The process is simple, (**\*MAKE SURE UPREV ROM EDITOR IS RUNNING IN ADMINISTRATOR MODE\***) when the ECU is identified, the status window will change to "ECU Ready". Click the "Copy ECU Data" button. A dialog box will open, be sure to save the file in a folder that has read / write permissions. (My Documents is recommended). The ECU Dump in some applications will be slow, so whenever doing an ECU dump it is recommended that the user turns on the hazard lights and connects a battery tender. This is recommended to make sure the intelligent power management does not turn off the ECU or deplete the battery voltage. When the ROM Dump is complete, right click the file and confirm the file size. Depending on the application the file size will be anywhere from 512kb to 3Mb. If

the ROM dump is 0kb this means the drive that was pointed to does not have enough storage space or the destination folder did not have write permissions.

Once the ROM dump is complete the ROM data can be submitted either by email to [roms@uprev.com](mailto:roms@uprev.com) or by pressing YES on the “Submit dump now?” prompt after the ROM dump finishes. When the YES button is pressed, this form will appear please attach the correct ROM file (.bin extension) and populate the data fields with the vehicle information.

Submit Dump

Contact Info

Name

Email Address

Phone Number

License Type Select License Type

Vehicle Info

Year Select Year

Make Select Make

Model Select Model

VIN

ECU Part # 23710 -

Engine Code Select Engine Code

Transmission Select Transmission

Features

Cruise Control  VDC  4x4  AWD

Big Tow  Syncro Rev  Flex Fuel

Comments

Dump File

Select File No File Selected

Submit Reset Close

When the information is filled out, ROM dump is attached and the submit button is pressed the user will get one of two scenarios. The user will receive confirmation that the ROM dump has been successfully submitted. In the event the ROM dump fails the user will be re-directed to the online ROM submission page.

### 3. Flashing your Vehicle

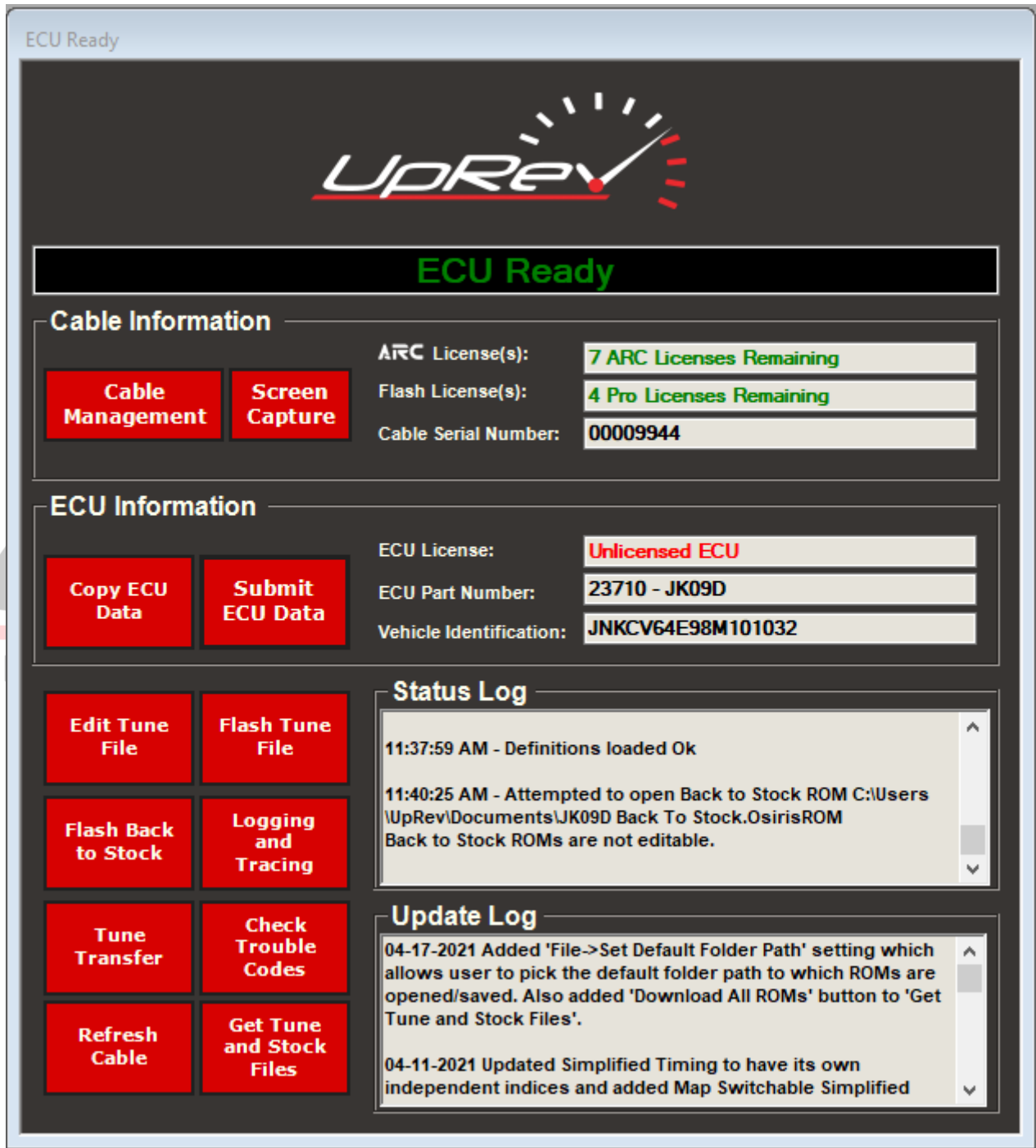
#### **IMPORTANT**

Before re-flashing the ECU be sure that the battery terminals are clean and tight, make sure that the battery is properly charged. If the battery voltage drops too low during the re-flash and the ECU turns off the incomplete flash can potentially brick the ECU. It is very important that to maintain a solid and reliable connection. If the connection is inconsistent this can be due to connector pins being out of spec, vehicle wiring, faulty USB ports, or simply a faulty UpRev interface. DO NOT re-flash the vehicle until a reliable connection is made in a location that is safe. Some applications are recoverable over the OBD port, but not all are. If the ECU cannot be recovered using the UpRev

Software over the OBD Port the user will have to purchase the UpRev ECU recovery service and ship the ECU to UpRev. We encourage customers to only re-flash their vehicle at a safe location. Do not re-flash your vehicle somewhere that could leave the customer stranded.

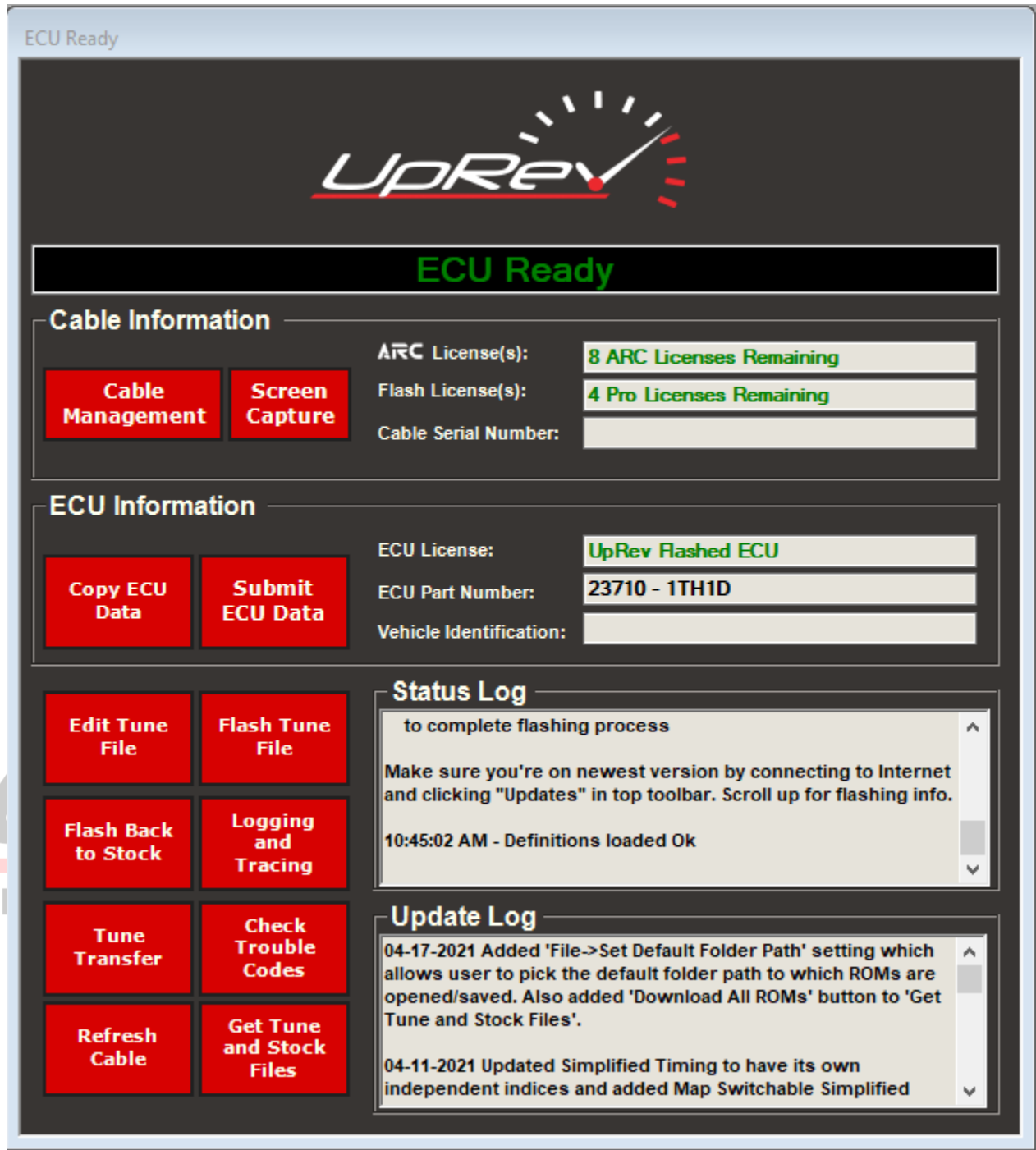
### Applying and Using your UpRev License

If the ECU is not UpRev Flashed the very first time it is programmed using UpRev the ECU it will consume one re-flash license from your UpRev interface cable. When the ECU is identified you will see “Unlicensed ECU” in the ECU License Box like so;



To re-flash the ECU click the “Flash Tune File” Button. Select the desired OSIRIS ROM to flash, a message box will alert the user a license will need to be consumed. When the re-flash is finished follow the instructions to cycle the ignition.

When the re-programming sequence is complete the ECU will change to either “UpRev Flashed ECU” or “ARC Flashed ECU” like so. (See example in the next page).



If the ECU already has an UpRev license installed, then the process will be identical with the only difference being that no additional reflash licenses will be consumed.

\*\*\* NOTE: Only pro cables can hold multiple licenses and flash ECUs. If a customer has an “interface” or “tuner” cable with a license in the cable AND the vehicle holds a license in the ECU the cable will not allow the user to re-flash until the license is consumed. Once the cable holds no license in it, it can flash any vehicle that already holds an UpRev license in the ECU; meaning the owner can own one cable and reprogram multiple Nissan vehicles. Users can continue to purchase licenses for multiple vehicles if they wish to use UpRev in them, but flashing will only work if the conditions above are met. The UpRev cable is not married to a specific vehicle or ECU.

## Flashing The ECU Back to Stock

In certain situations, customers choose to flash their vehicles back to stock. Unless you receive written authorization from an UpRev employee to remove the license for diagnostic purposes **DO NOT USE THE “BACK TO STOCK.OSIRIS” ROM. THE UPREV LICENSE WILL BE ERASED. CUSTOMERS WILL NEED TO PURCHASE A NEW LICENSE IF THEY WISH TO RE-INSTALL UPREV AT A LATER DATE.** Most diagnostics can be done by flashing the ECU with a brand new un-used un-modified UpRev ROM. (Please refer to the “**Knowing Which ROM to use**” section for details on how to download a fresh ROM). The ROMS downloaded from UpRev only contain map switching, however if left unmodified the ROMs will function like a factory ECU with the exception it will not remove the UpRev License.

\*\*\* NOTE: If an unmodified UpRev ROM is flashed the ARC License WILL be refunded back to the cable used to flash the ECU. (This means when the modified ROM with ARC enabled is flashed the ARC license will be re-installed back in the ECU no problem.) If the current ROM in the ECU has NATS disabled, flashing an unmodified ROM will turn NATS back on. Only UpRev dealers and Pro-Tuners can disable NATS on a ROM File.

## License & Flash Errors

**License Error 00:** The ECU does not have a recognized UpRev license and the cable flashing the ECU does not have an available license in it. If map switching is active or the customer KNOWS for a fact the ECU has an UpRev license in it please refer to page 27 for K-line explanation. (Example: car has over sized intakes, bigger injectors, turbo NATS disabled etc. vehicle runs fine but license is not recognized.)

**License Error 0x07:** This can be one of two things; The software has updated since the last cable license report was sent back from processing, or the cable was used to diagnose or flash a vehicle while UpRev was processing the license report. When a cable license report is sent processing switch the laptop in airplane mode so that the software does not update overnight & do not use the cable until the new license report arrives and is applied to the cable.

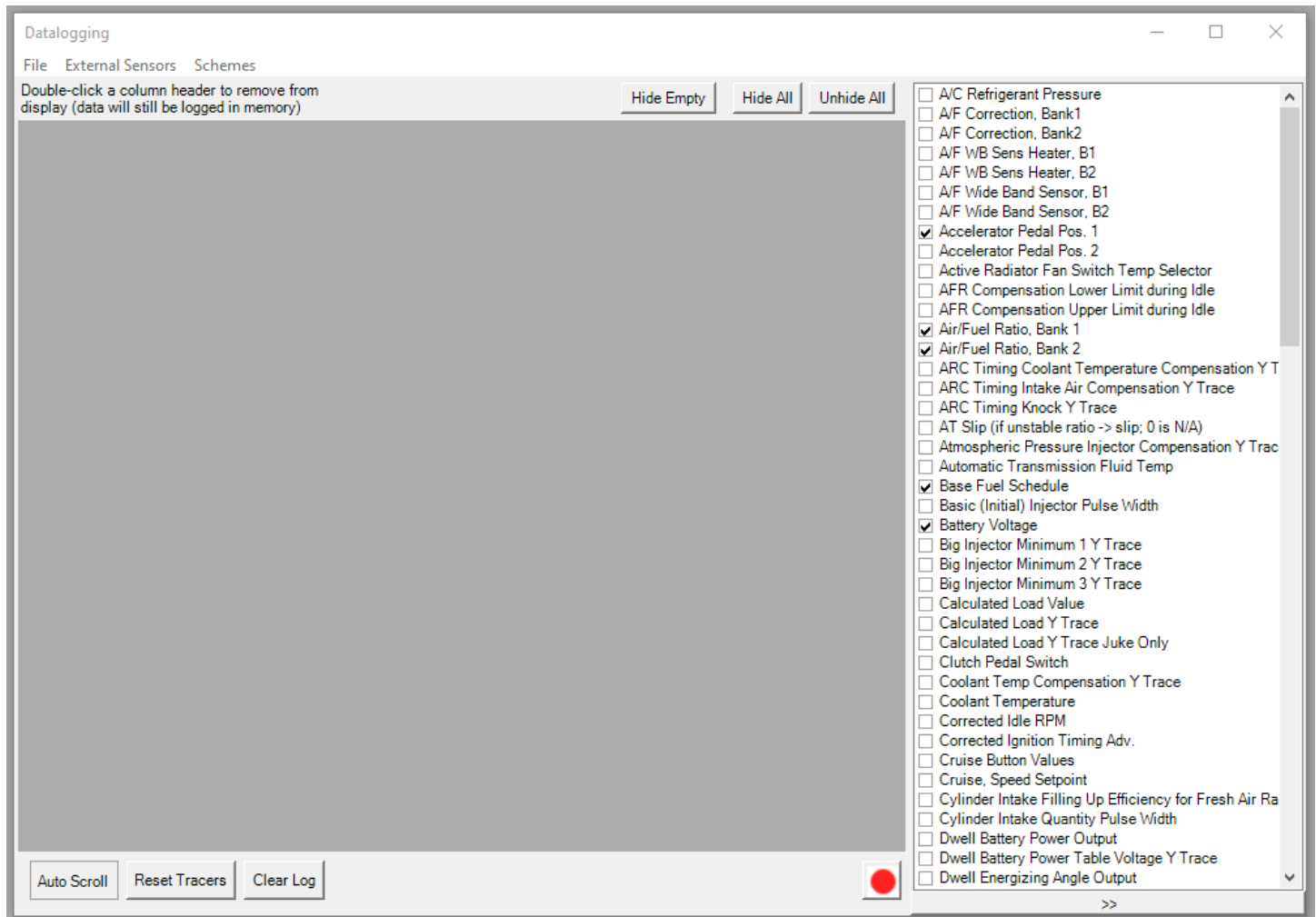
**License Error 11:** ECU is currently locked by a non UpRev tuner. ECU needs to be flashed back to stock (remove their license / software) to be able to use UpRev.

**Software stuck on “Turn Vehicle off” Screen:** This error occurs when the cable and software time-out after a re-flash. It is important to pay attention and follow the instructions on the screen as they instruct in a timely manner. The solution to this case is to turn off the vehicle, count 20 seconds, turn the Ignition back on (without starting the engine), disconnect the UpRev cable from the USB port and plug it back in. This will re-start the timer and allow the flash process to finalize.

## 4. Data Logging

### Opening Datalogger

Data logging is done through the ROM Editor. To data-log user must have the UpRev cable connected to the vehicle and the engine’s ECU must be powered on and communicating with the UpRev cable. When the ECU status screen displays “ECU Ready” in green letters the button “Logging and Tracing” will change to the color Red. Press this button to open the UpRev datalogger.



## Setting up Data-Logs

With the datalogger open the user can select all the channels available from the ECU to be recorded. Some applications have more parameters available than others. There are no specific lists for every application available. UpRev offers a pre-configured data-log scheme for our e-tunes. This is loaded by pressing the Schemes -> Load E-Tune Scheme...

## Saving & Loading Schemes

Customers can save and load different pre-selected data-log parameters lists also known as “schemes”, this feature is intended to save time. This is especially useful when customers are logging multiple vehicles in one day. By selecting Schemes -> Save Scheme... the user will be prompted to name a .skm file. This file will now contain all of the parameters that were checked (or logging) at the time of saving. Users can load pre-configured schemes by using the Schemes -> Load Scheme... button & selecting the appropriate .skm file.

## Using External Wideband Sensors (Innovate)

Not all supported ECU's offer factory wideband sensors, (for example early 2004 and all 2003 Nissan 350Z). In order to obtain an accurate air fuel sensor reading the user must use an external wideband lambda sensor. UpRev software is compatible with any Innovate Motorsports wideband kit that communicates over a serial connection. To Log the values from the innovate wideband gauges first download the innovate motorsports Logworks 2 or Logworks 3 software and install it on the PC that will be datalogging the vehicle. Users will also be required to use a Serial to USB converter, (a COM port is required for logging external sensors. Innovate USB devices such as the LM2 do not provide a virtual COM



port when connected to the PC through the USB port. By using a Serial to USB adapter, a virtual COM port is created that the UpRev Datalogging tool can use to establish communication with the innovate lambda controller).

With the innovate software installed, wideband powered on and connected to the laptop via Serial port, select "File -> Connect (or Ctrl + L)" this will identify the COM port and confirm proper communication with the innovate gauge. When this is confirmed, user should close the innovate Logworks software.

With the ROM editor Datalogger open, user can navigate to External Sensors -> Innovate -> Configure. In this menu user will select the COM port in which the innovate motorsports wideband is connected. If the serial port appears blank and nothing populates in the drop-down menu press "Refresh List" button. (In the event the list stays blank, this means the COM port is being used by another software please be sure the Innovate Logworks software is closed and has no processes running.) When the COM port is selected, press "OK". The last step to is to follow the path "External Sensors -> Innovate -> Connect. After the sensor is connected to the UpRev Datalogger user will be able to select Innovate wideband external sensor from the logging parameters list on the right side of the logger.

**\*External Wideband / Lambda Sensor tips\*** Allot of factory sensors have a better solution for lambda reading than early ECU's but it still recommended that all users use external lambda sensors on the Dyno to confirm the Air/Fuel mixture during ECU tuning. We have found some N/A applications to be off as far as 0.5 point in AFR reading, and turbo applications off as much as almost 2 whole points (Factory sensor reading 10:1 while Dyno sensor is reading 11.5). The factory sensors are not as accurate as motorsport sensors. Lambda readings from the factory sensors should be used if no other sensors are available, however it is highly recommended to use a proper aftermarket sensor.

## 5. Log-able parameter descriptions

### UpRev ROM specific parameters

(these can only be logged via the ROM editor):

- Target Air/Fuel Ratio: The AFR that the ECU is attempting to run. Should coincide with the AFR table lookup + lookup delay.
- AFR (only available on vehicles that are equipped with a WB O2 sensor from the factory): The AFR is calculated based on the A/F Sensor voltage which is referenced to a table in the software. It is NOT returned directly from the ECU. The reading SHOULD be close, but checking against another WB O2 sensor is ideal.
- Knock Strength: The value will jump up every time there is a knock event. The amount of jump will depend on the ROM that is being used and the severity of the knock event.
- High Det Flag: This parameter will switch from 0 to 1 when the ECU has detected too many knock events in a given amount of time. When it changes to 1 the ECU will run the high det timing table.
- Injector Duty Cycle: The injector duty cycle is calculated directly from the engine speed and injector pulse width. The ECU CAN report injector pulse widths that give a duty cycle greater than 100% even though that just means the injectors are wide open.
- AT slip: This parameter is derived from a division of the engine speed and vehicle speed. The value should stabilize anytime the transmission is in gear and the torque converter is locked up. If this value starts to waiver at WOT after TC lockup, then the clutches inside the transmission are slipping.

### Nissan Standard parameters:

\*\*There are MANY more standard Nissan parameters that will not be described here, most are self-explanatory.

- A/F correction (B1/B2) = Actual real time fuel trims. Above 100% is adding fuel, below 100% is taking fuel out.

- Base Fuel Schedule (BFS) = The theoretical injector pulse width that the ECU would have to run in order to maintain a 14.7 AFR. This is NOT the actual pulse width which will be different depending on the target AFR and fuel trims.

## 6. Troubleshooting & Diagnostic

### Cable not identified by UpRev ROM Editor Tool

If the cable is not recognized by the ROM Editor, (meaning when user connects cable to laptop and user has the notification from the device being connected). Check the Device Manager under the “Universal Serial Bus controllers” folder for “Cipher USB Cable (Nissan)”. If the cable is there the fix is very simple. This is caused because of the incorrect version of Microsoft.net framework. To start user should un-install the UpRev ROM Editor from their computer and restart the system.

Once the system restarts the user should install the software in the following order. First. Microsoft.net framework version 4.8 (newest available at time of this guide). Second UpRev USB Drivers. Third. UpRev ROM editor. After this is done the software should have no problems recognizing the cable. If communication issues continue, please contact the supporting UpRev dealer which cable was purchased from for further diagnostics & instructions. If cable was purchased new from UpRev directly please contact [support@uprev.com](mailto:support@uprev.com) with details of the problem, order number, name under which the order was placed and email address of the UpRev account. UpRev will not be able to assist until these details are provided. IF cable was not purchased from UpRev directly end user must Contact the supporting UpRev dealer.

### Map switch not switching maps

It has become popular to add cruise control hardware to the user vehicle to enable the map switching feature. Map switching doesn't always work after the install. (Sometimes customers that have vehicles with factory cruise control lose the map switching feature.) The ECU feature for map switching has not changed in years, and so it is vital that our dealers and customers know how to diagnose this. With the UpRev interface cable, UpRev Rom Editor logger and a few hand tools the end user can diagnose the problem.

To diagnose the issue user should log the parameter “**Cruise Button Values**”. With the ignition in the on position begin logging this parameter. User will look to see that this value changes when you press the Cancel button, when the toggle “COAST / SET” and “ACCEL / RES” are pressed it should also change the value at the logger. If the **Cruise Button** values number does not change this means the ECU is not seeing the cruise control buttons. This means the hardware has communication issues; typically, this is faulty wiring or a faulty clock spring.

### Cruise Control light not flashing when switching Maps

If the car did not have cruise control fitted from the factory on the early years the light is not soldered into the board so the light will not work, however, if the car has functioning cruise control light and works normal when operating cruise control the issue is fixed easily. Disconnect the battery for 5-10 minutes (be sure to turn the ignition on and the headlamps on to make sure all components are drained completely of their back-up power.) Re-connect the battery, all systems should be reset and working properly. (This is assuming user has already verified map switching is working properly.)

### UpRev License not Identified

If the UpRev cable is connected to the vehicle, ignition on and UpRev software displays “Unlicensed ECU” when customer has already flashed the ECU. If ARC features are activated and working, map switching is active, car is using oversized intakes or aftermarket injectors driving and properly these are all signs of a tune file being flashed in the ECU.

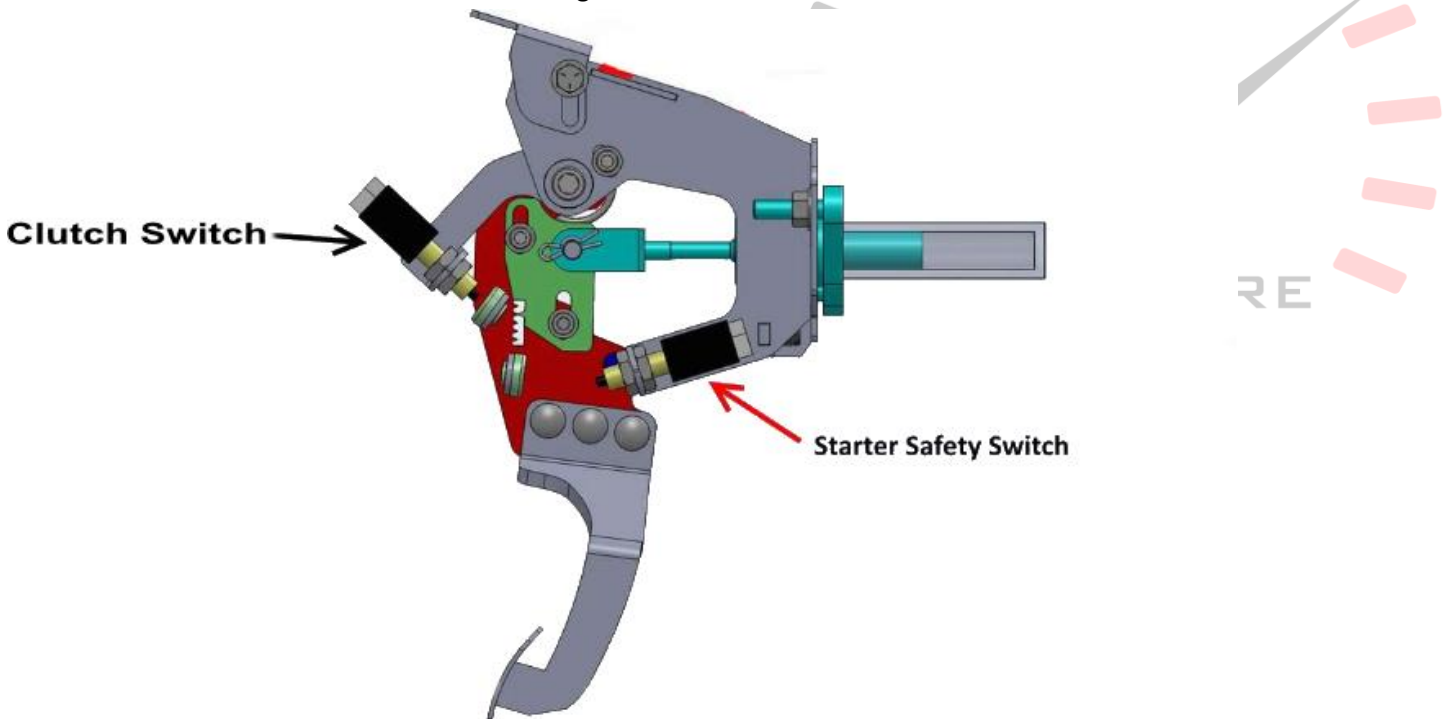
The problem is the vehicles wiring, whenever the K-Line communication is faulty or disabled the license will not be identified by the UpRev cable. If the ECU does have a license or flashed and used the license, diagnostic of the K-line wiring will need to be made. Each vehicle is different so please refer to the corresponding Nissan / Infiniti factory service manual for details on K-Line wiring and diagnostic. The other alternative cause has been bad / improper ECU power supply if the ECU is running only on back-up power and not all the power pins the K-line will not be active. Best place to diagnose this issue is again with the Nissan Factory Service manual for your vehicle or testing the ECU with a bench harness.

### Launch Control not Engaging

The number one cause of Launch control engaging “randomly” is due to the Temperature windows. Remember to check the Oil and Coolant temperature Min & Max are met. If the engine is too cold or too hot the ARC functions will not work. Please refer to **ARC -> General** for details. Another cause of Launch Control not activating is the accelerator pedal voltage value is not being met. Finally, there have been cases where the Neutral / Park switch are not reporting the car going into gear. (Mainly in M/T vehicles.) This can be due to faulty wiring or a neutral switch. If the ECU does not see the transmission is in first gear launch control will not activate.

### Flat-Foot Shifting Activates Randomly

This issue is always related to the clutch switch. Usually, a vehicle’s clutch switch is adjusted too sensitive and if the customer is resting their foot on the clutch pedal (while all other FFS conditions are met) the feature will activate. Also, there are cases where customers are not touching the clutch pedal at all, however when the clutch switch is looked at it is at the very edge of its window and road vibrations, or feedback will cause the switch to arm / disarm; Do not confuse the clutch switch for the starter switch. See Diagram below for clarification.



### Cruise Control Deactivates Randomly

Same explanation as Flat Foot Shifting randomly activating, please see the section above.

### Rolling Anti-lag not Activating

For rolling anti-lag, the reasons for it to not arm is either the general or basic requirements are not being set. See **ARC -> General & ARC -> Rolling Anti-Lag**. However, if all the conditions are being met, (engine is not too hot or not too cold,

vehicle speed or RPM not too low.) The only other cause for it to not arm is the Cancel button not being identified by the ECU. This can be checked by Logging the “**Cruise Button Values**” and confirming it’s changing when the button is pressed.

