1 Table of Contents

1 Table of Contents 1

2 Introduction 2

2.1 Overview 2

2.2 Scope 2

2.3 Terms and Abbreviations 3

3 Functional Software Requirements 4

3.1 Workshop Software Lite Main Screen 4

3.1.1 Menu Interface Provisions 5

3.1.1.1 File Menu, Port Settings 5
3.1.1.2 File Menu, Backup DLN 7
3.1.1.3 File Menu, Restore DLN 9
3.1.1.4 File Menu, Exit 11
3.1.1.5 Language Menu, Portuguese 11
3.1.1.6 Language Menu, English 11
3.1.1.7 Language Menu, Spanish 11
3.1.1.8 Help Menu, About 11

3.1.2 Button Interface Provisions 11

3.1.2.1 Extract Dump 11
3.1.2.1.1 Start Communication 12
3.1.2.1.2 Extract Dump 14
3.1.2.2 Firmware Update 16
3.1.2.2.1 Start Communication 17
3.1.2.2.2 Firmware Update 22
3.1.2.3 Firmware Update with clear 28
3.1.2.4 Exit 28

2 Introduction

PCSW lite is designed for workshop users. This software consists of the following utilities.

- Extract Dump Utility
- Firmware Update Utility
- Firmware Update with Clear Utility

These utilities enable the users to perform the following operations.

- To perform Firmware Upgrade to BVDR.
- Extract the Dump from the BVDR device

2.1 Overview

The purpose of this document is to specify workshop software lite specifications of the BVDR for the Brazilian customer. It allows a clear understanding for the software developer.

2.2 Scope

This document is intended to provide the description of the workshop software lite requirement specifications for customer service (workshop centers).

All other important documents or standards referred to shall also be listed in the References.

2.3 Terms and Abbreviations

Term/Abbreviation	Explanation
PCSW	Personal Computer Software
BVDR	Brazilian Vehicle Data recorder
COM	Communication
HMI	Human-Machine Interface
CRC	Cyclic Redundancy Check
VIN	Vehicle Identification Number
VLPN	Vehicle License Plate number
VLPC	Vehicle License Plate Classification
DC	Driver Code
DLN	Driver License Number

3 Functional Software Requirements

Interfaces to external systems are identified here and specified within the dedicated discipline product requirements specifications.

3.1 Workshop Software Lite Main Screen



Figure 3.1-1: Workshop Software Main Screen

The figure 3.1-1 shows the workshop software main screen. This screen allows the user to navigate to different functionality through menu or buttons. Note that at any point of time one functionality can be active, if there is an active functionality exists and user needs to use another functionality then user must close the existing functionality to use the new functionality. The different functionalities of this screen are listed as follows.

- **Extract Dump**
  Click on this button to enter into the Extract Dump utility. This utility allows the user to extract the dump from the BVDR device to the PCSW Lite. The extracted dump can be saved to any location in the hard disk of the computer.

- **Firmware Update**
  Click on this button to enter into the Firmware Update utility. This utility will allow the user to upgrade the BVDR device firmware.

- **Firmware Update with clear**
  Click on this button to enter into the Firmware update utility. This utility will allow the user to upgrade BVDR firmware by clearing the recorded data.

- **Exit**
  Click on this button to quit the application.

Apart from the button interface the workshop software lite also provides the menu interface provision for the user. Here the menu interface functionality is common to all utilities, so only the relevant menu options will be enabled for the specific utility. For workshop software lite main screen the following menu interface provisions are allowed.

- **File, Port Settings**
  Select 'Port settings' sub menu in 'File' menu, to configure the port information for the communication between BVDR and PCSW.

- **File, Backup DLN**
  Select 'Backup DLN' sub menu in 'File' menu, to retrieve the driver code and driver license number list configured in the BVDR.

- **File, Restore DLN**
  Select 'Restore DLN' sub menu in 'File' menu, to put back the driver code and driver license number list in to BVDR device.

- **File, EXIT**
  Select 'EXIT' sub menu in 'File' menu, to quit the application.

- **Language, English/ Portuguese/Spanish**
  The default language selected will be Portuguese. Change the language menu selection to change the screen layout to English or Spanish.
  In order to change the screen layout to Portuguese, change the language menu selection from English or Spanish to Portuguese.

- **Help, About**
  Select 'About' sub menu in 'Help' menu to view the help topics.

3.1.1 Menu Interface Provisions

The following section explains the menu interface provisions in detail.

3.1.1.1 File Menu, Port Settings

After selecting 'Port Settings' option from the workshop software lite main screen's File menu (i.e. from figure 3.1-1), the 'Port Settings' window will popup as shown in below figure 3.1.1.1-1.

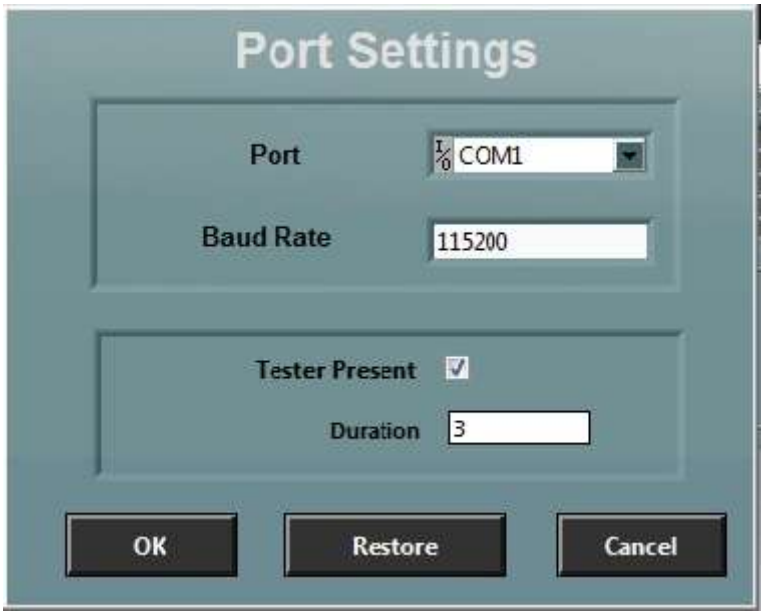


Figure 3.1.1.1-1: Port Settings Screen

The 'Port Settings' utility provides the following provisions for the user,

- **Port:**
  The name of the serial port through which, the communication path is established between the PCSW and the BVDR device. All the available 'communication ports' instances are listed in this drop down object. The user has to select the appropriate one, which is physically connected to the BVDR device. The default value is 'COM1'.

- **Baud Rate:**
  Rate at which (number of bits per second), the communication is carried out between PCSW and BVDR. The default 'baud rate' is 115200.

- **Tester Present:**
  If this control (object) is checked with tick mark, then the 'Tester Present' command is enabled between BVDR and PCSW while the communication is active. Else the 'Tester Present' command will be disabled. By default, this control will be checked with the tick mark.

- **Duration**
  This particular control indicates the duration (in terms of seconds) between 2 successive 'Tester Present' commands. By default this duration is set to 3 seconds.

- **OK**
  Once after configuring the required fields for the serial communication, the configured information can be saved by clicking on this button.

- **Restore**
  Click on this button to discard the user configured changes by setting it to default configuration settings.

- **Cancel**
  Click on this button to close this utility by retaining the previously configured port settings.

3.1.1.2 File Menu, Backup DLN

After selecting 'Backup DLN' option from the workshop software lite main screen's File menu (i.e. from figure 3.1-1), an explorer window will popup as shown in below figure 3.1.1.2-1.

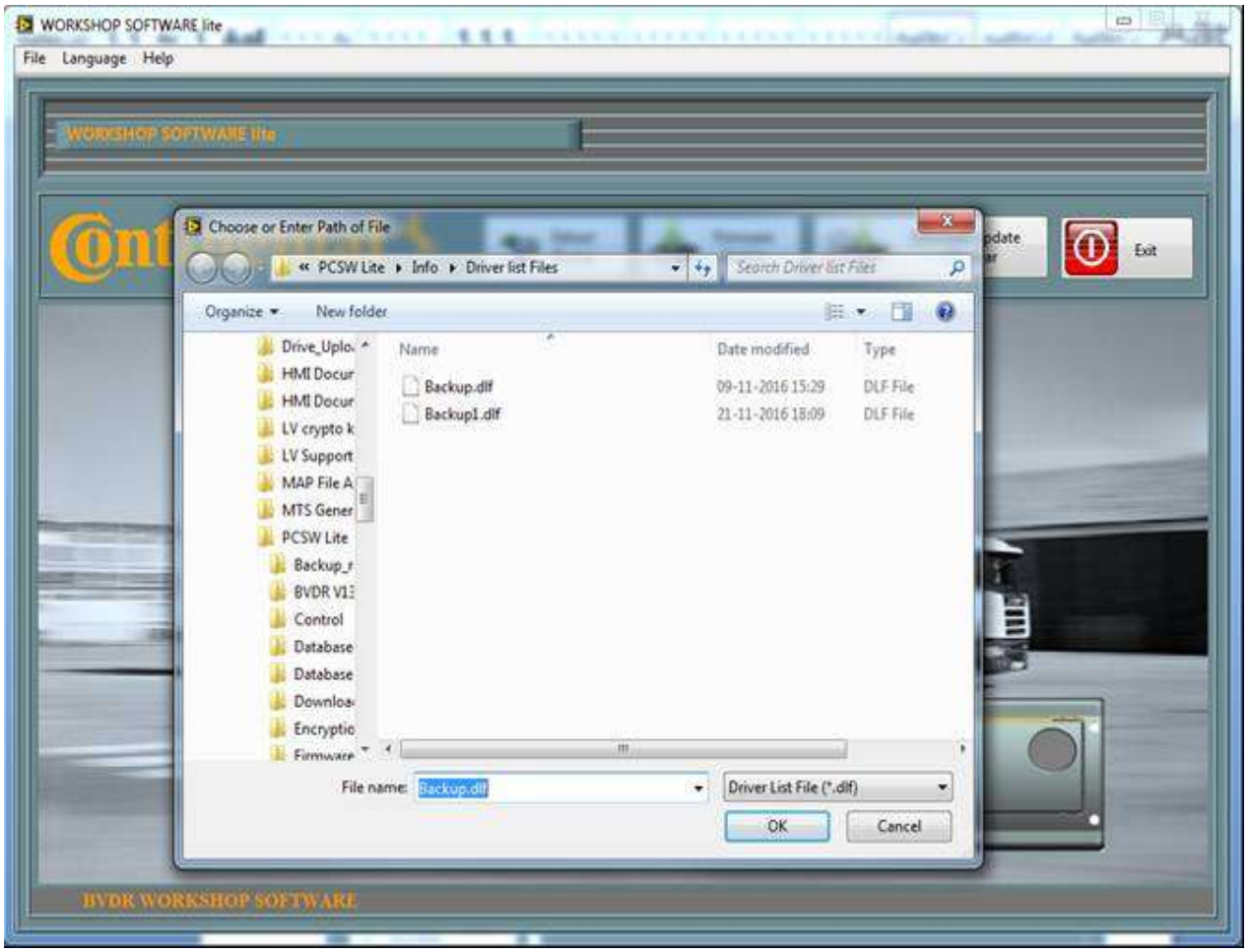


Figure 3.1.1.2-1: Workshop Software Lite Backup DLN, Explorer window

The 'Backup DLN' utility will allow the user to retrieve the DC, DLN list from BVDR to PC. When user selects the Backup DLN sub menu from the file menu, an explorer window will prompt the user to select the file name and location to which the DC, DLN list needs to be stored. Once user enters the file name and path, user has to click on OK button in order to retrieve the list from BVDR. And also the user has a provision to cancel the list retrieval process by clicking on the 'Cancel' button. Once the user clicks on the OK button, another window will pop up and try to fetch the DC DLN list from the BVDR as shown in below figure 3.1.1.2-2.

When the tool is in the process of fetching the list, "Backing up Driver code and license number list…" message is displayed on the window along with busy symbol as shown in figure 3.1.1.2-2. If the backup process gets completed successfully, then the retrieved list is populated on the table as shown in figure 3.1.1.2-3. Also a message is displayed to convey the user regarding the status of the operation. This message field will display appropriate message, in case if any error is occurred during the list retrieval process then an error message is displayed else the "DLN backup process completed successfully" message is displayed.

Once after the completion of this process, an OK button is made visible to the user in order to quit this utility and return to main screen.

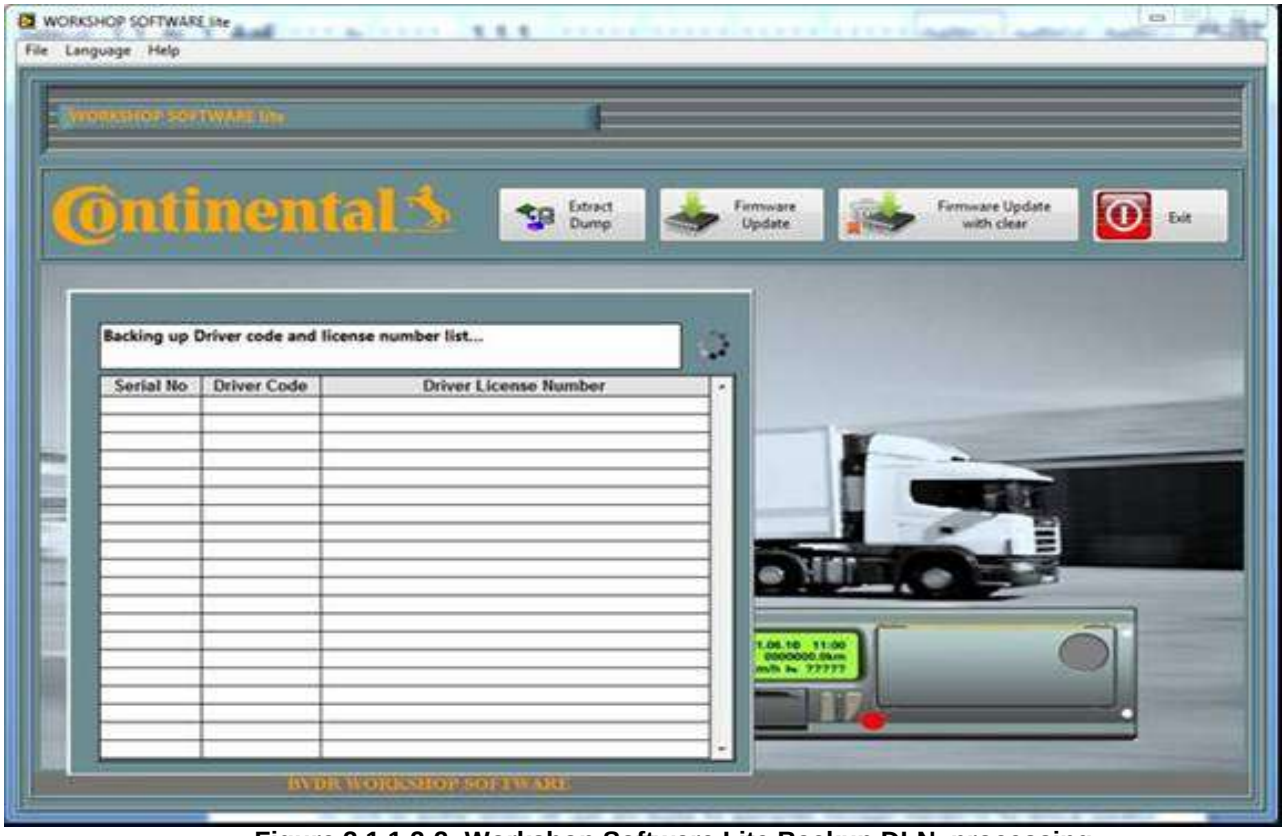


Figure 3.1.1.2-2: Workshop Software Lite Backup DLN, processing



Figure 3.1.1.2-3: Workshop Software Lite Backup DLN, completed

3.1.1.3 File Menu, Restore DLN

After selecting 'Restore DLN' option from the workshop software lite main screen's File menu (i.e. from figure 3.1-1), an explorer window will popup as shown in below figure 3.1.1.3-1.

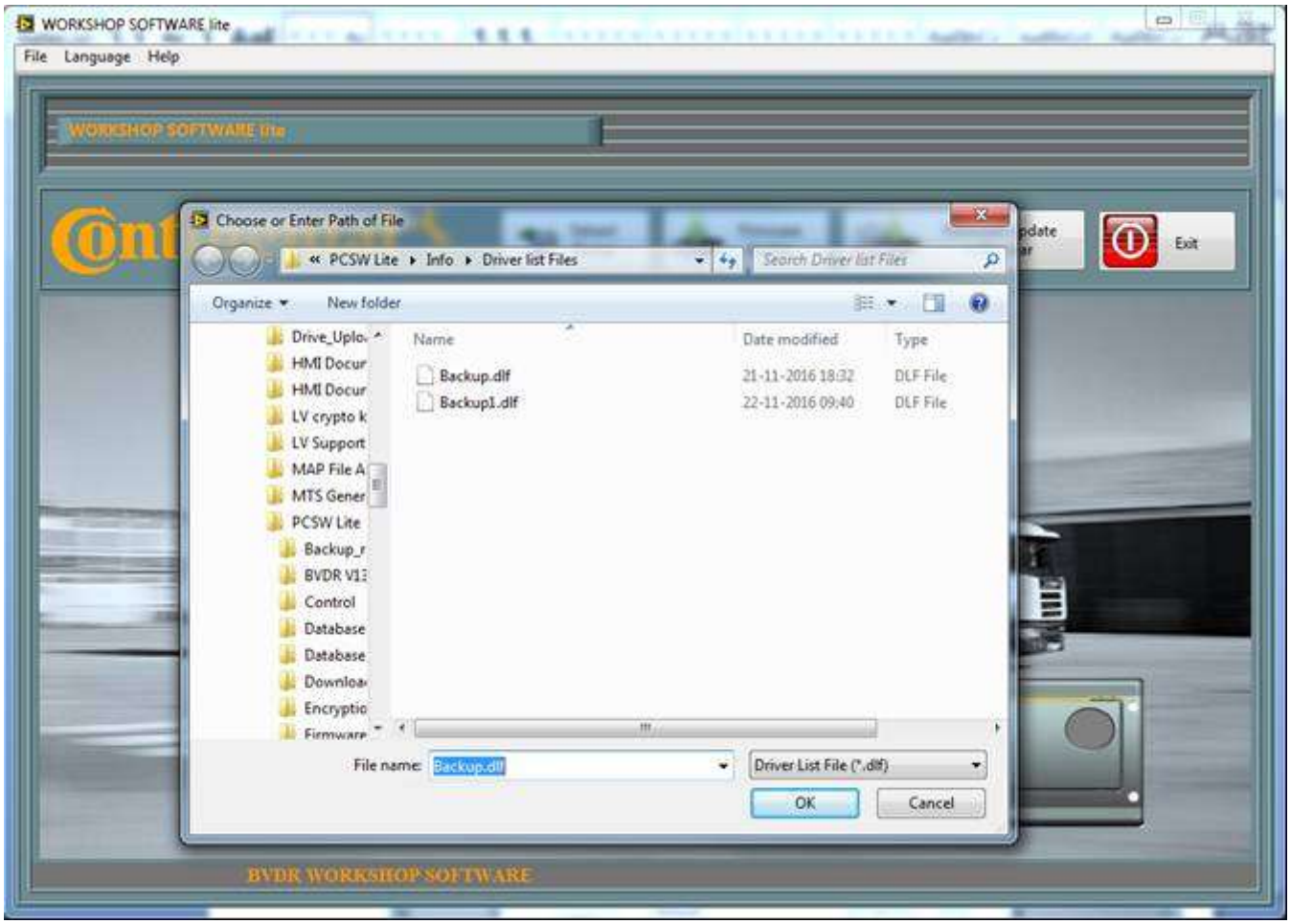


Figure 3.1.1.3-1: Workshop Software Lite Restore DLN, Explorer window

The 'Restore DLN' utility will allow the user to restore the DC, DLN list from PC to BVDR. When user selects the Restore DLN sub menu from the file menu, an explorer window will prompt the user to select the existing file from the PC, in which DC DLN list is stored. Once user selects the file from the PC, user has to click on OK button in order to restore the list to BVDR. And also the user has a provision to cancel the list restoring process by clicking on the 'Cancel' button. Once the user clicks on the OK button, another window will pop up and try to restore the DC DLN list to the BVDR as shown in below figure 3.1.1.3-2.

When the tool is in the process of restoring the list, the table is populated with the DC DLN list read from the selected file and a message saying "Restoring Driver code and License number list…" is displayed on the window along with busy symbol as shown in figure 3.1.1.3-2. If the restore process gets completed successfully, appropriate message is displayed on the message field to convey the user regarding the status of the operation. In case if any error is occurred during the restore process then an error message is displayed else the "DLN backup process completed successfully" message is displayed.

Once after the completion of this process, an OK button is made visible to the user in order to quit this utility and return to main screen.

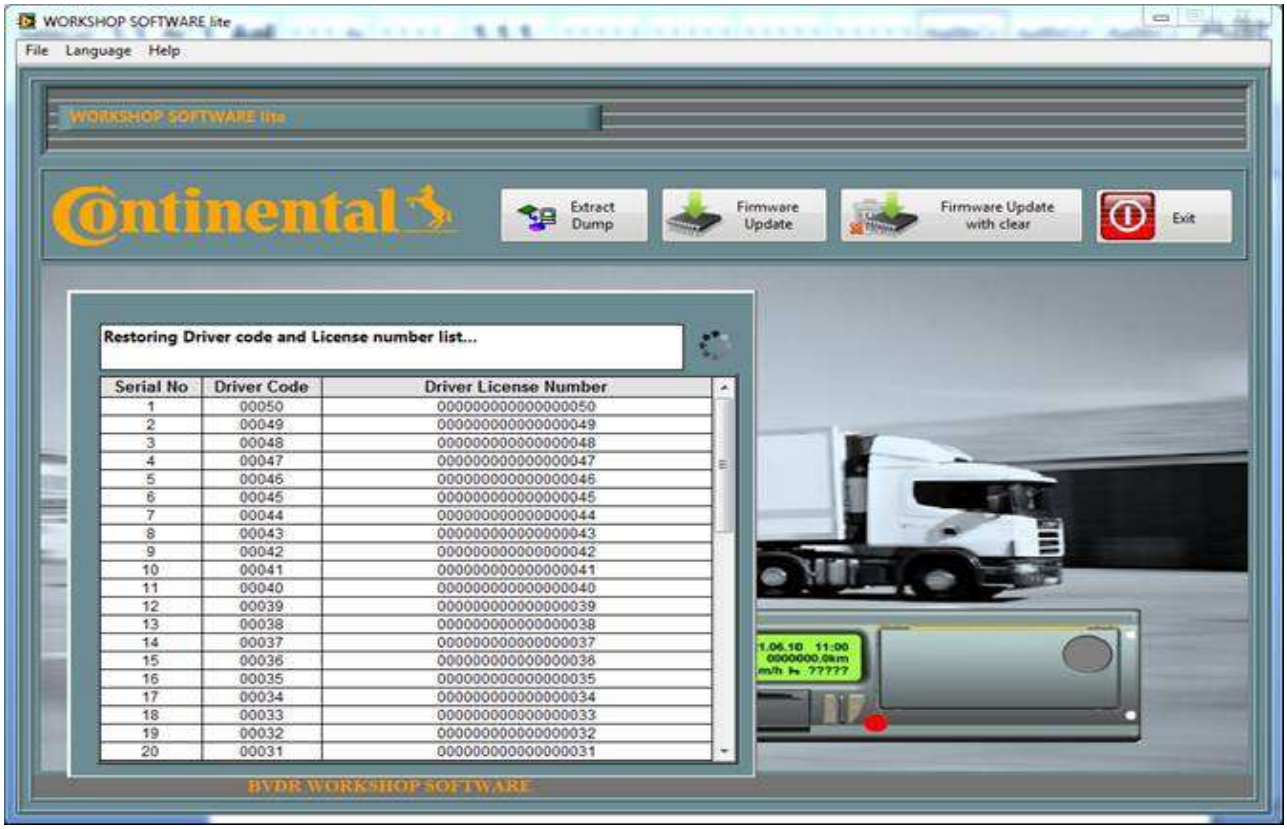


Figure 3.1.1.3-2: Workshop Software Lite Restore DLN, processing

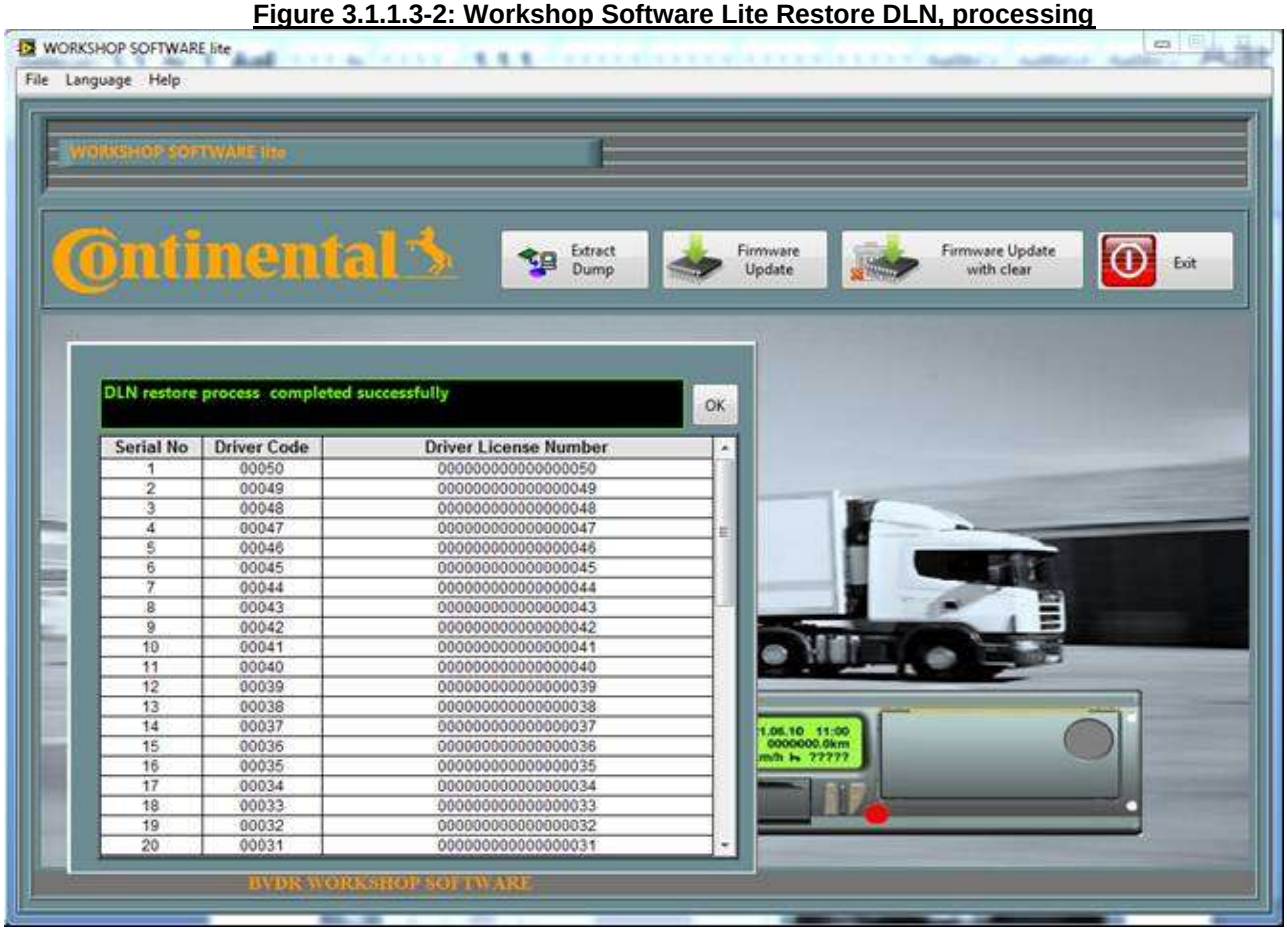


Figure 3.1.1.3-3: Workshop Software Lite Restore DLN, completed

3.1.1.4 File Menu, Exit

Use this provision in order to quit the application.

3.1.1.5 Language Menu, Portuguese

This option is enabled when the current screen layout is in English or Portuguese language. During this time user can change the layout to Portuguese by selecting this sub menu from the Language menu.

3.1.1.6 Language Menu, English

This option is enabled when the current screen layout is in Portuguese or Spanish language. During this time user can change the layout to English by selecting this sub menu from the Language menu.

3.1.1.7 Language Menu, Spanish

This option is enabled when the current screen layout is in Portuguese or English language. During this time user can change the layout to Spanish by selecting this sub menu from the Language menu.

3.1.1.8 Help Menu, About

Select ‘About’ sub menu in ‘Help’ menu to view the help contents.

3.1.2 Button Interface Provisions

The following section explains the menu interface provisions in detail.

3.1.2.1 Extract Dump

Upon clicking on the “Extract Dump” button from the “Workshop software lite main screen” (i.e. from figure 3.1-1), the “Workshop software lite, Extract Dump” window will popup as shown in below figure 3.1.2.1-1.

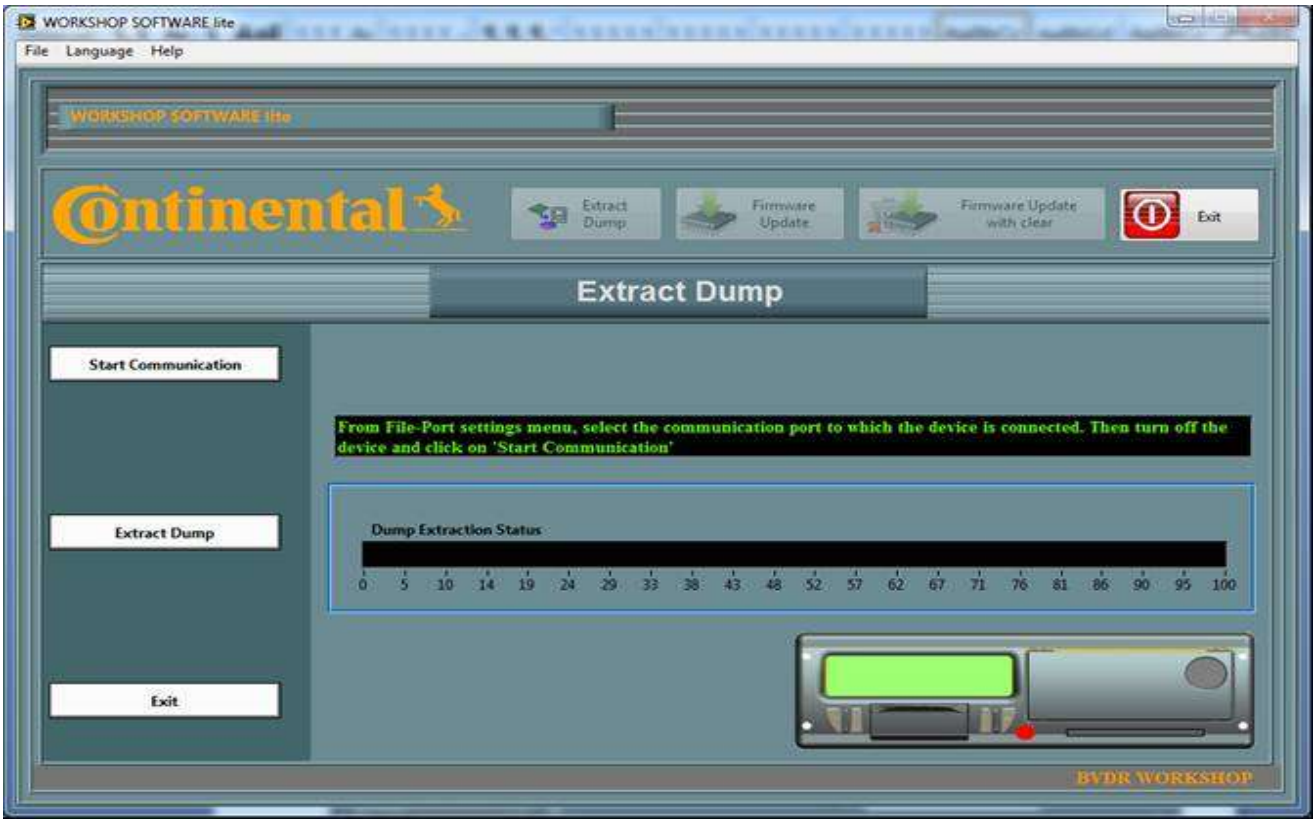


Figure 3.1.2.1-1: Workshop Software lite, Extract Dump Utility

The figure 3.1.2.1-1 shows the 'Workshop software lite, Extract Dump utility'. This utility allows the user to extract the dump from BVDR Devices. This utility provides the following control operations for the user.

- **Start Communication**
  Click on this button to establish the communication between PCSW lite and BVDR device.
- **Extract Dump**
  Click on this button to retrieve the dump from BVDR device.
- **Exit**
  Click on this button to quit the 'Workshop software lite, Extract Dump utility' and return to 'Workshop software lite main screen'.
- **Menu Interface:**
  For "Workshop software lite, Extract Dump utility" the menu provisions remains same as that of the workshop software lite main screen. But Backup DLN and Restore DLN menu provisions will be disabled. Please refer to the following link for the detailed operation of the Menu Interface Provisions.

3.1.2.1.1 Start Communication

Upon requesting this option, the "Workshop software lite Extract Dump utility" will try to initiate the communication between PCSW lite and BVDR device. Till the communication is established, the status string displays the message as 'Performing Start Communication, Now turn-on the device' as shown in figure 3.1.2.1.1-1.

The "Workshop software lite Extract Dump utility" will wait in this state till the communication is initiated or any error occurs. If any error occurs while initiating the communication then "Workshop Software lite Extract Dump utility" displays the appropriate error in the 'status string' as shown in figure 3.1.2.1.1-2. Otherwise the "Workshop Software lite Extract Dump utility" changes its state as shown in figure 3.1.2.1.1-3. Once the communication is active the software reads the existing firmware version from the device and is displayed on LCD screen area of VDR image shown in the window as shown in figure 3.1.2.1.1-3. Also now the "Extract Dump" option will be enabled for the user.

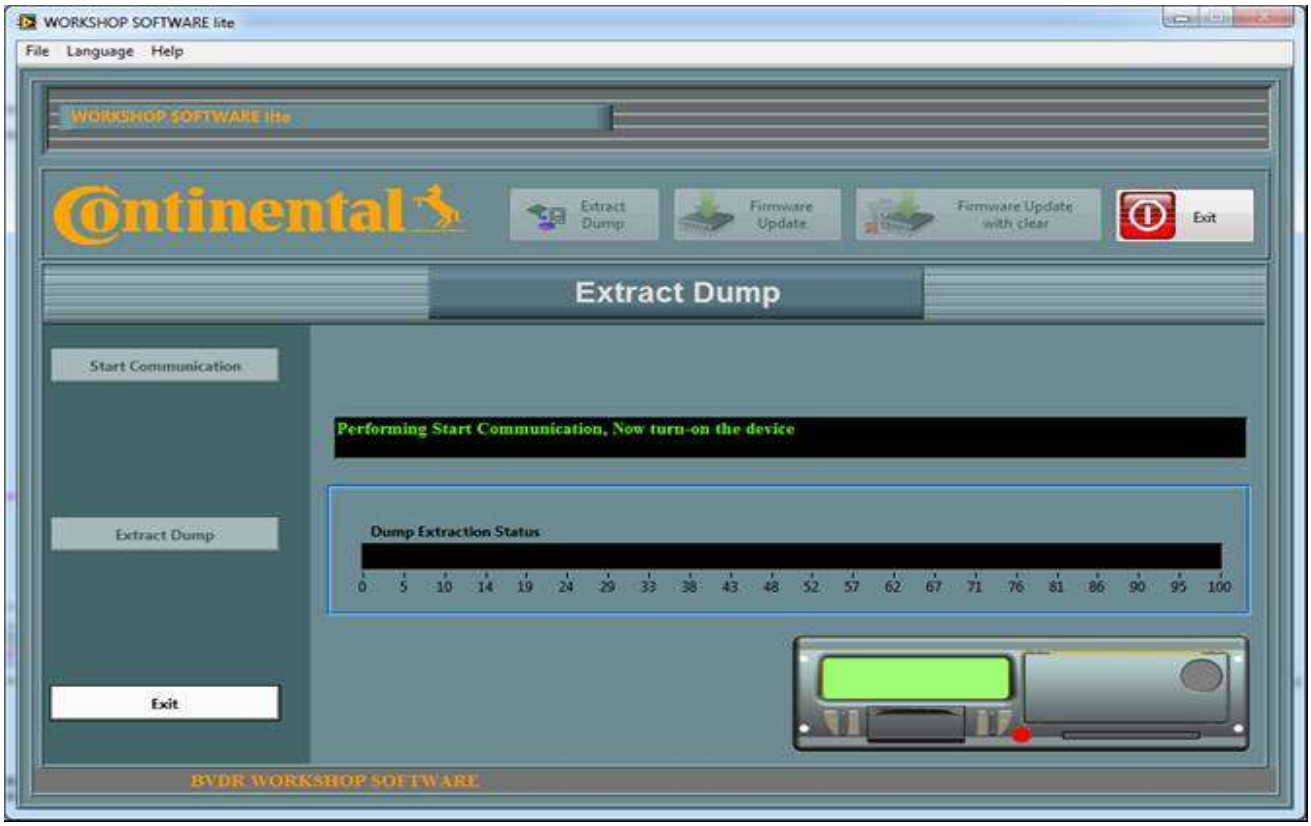


Figure 3.1.2.1.1-1: Workshop Software lite Extract Dump Utility – 'Performing Start Communication' state

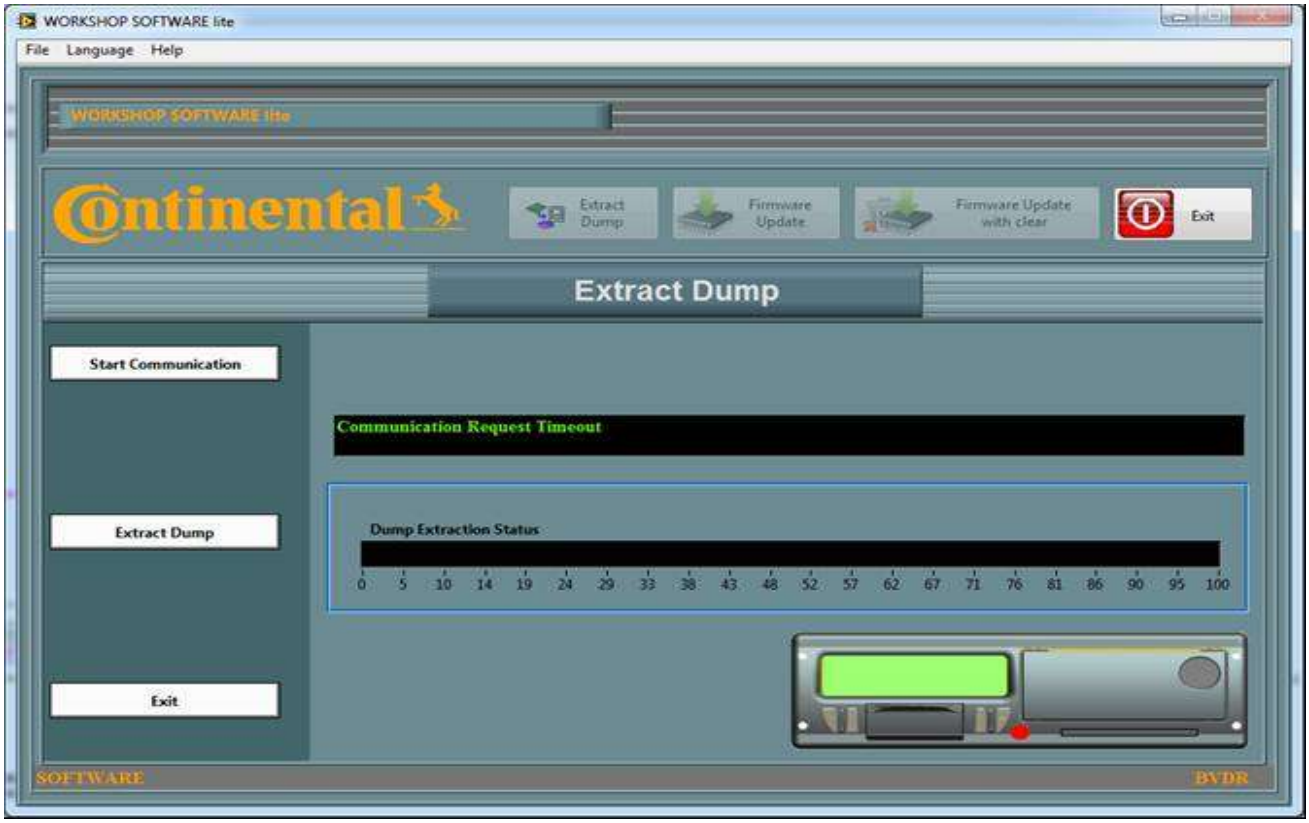


Figure 3.1.2.1.1-2: Workshop Software lite Extract Dump Utility – error state (Start Communication failure)

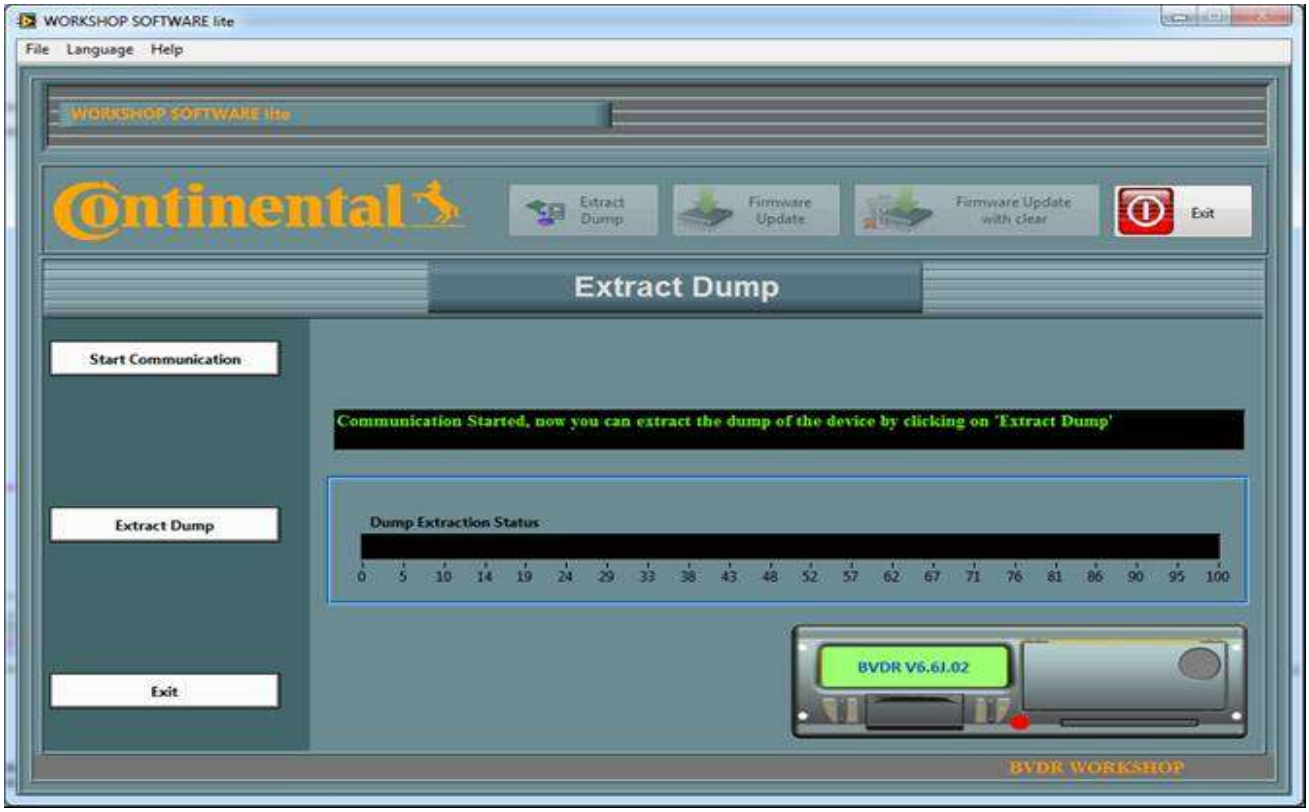


Figure 3.1.2.1.1-3: Workshop Software lite Extract Dump Utility – 'Communication Started' state

3.1.2.1.2 Extract Dump

Once the communication is started, user will be able to extract the dump of BVDR device by clicking on this button. Upon clicking on this button the software goes on fetching the SFLASH and FRAM dump, during this process, progress bar is updated with the percentage of completion of the ongoing operation along with status messages in the status string display as shown in below figure 3.1.2.1.2-1.



Figure 3.1.2.1.2-1: Workshop Software lite Extract Dump Utility – Extract Dump in progress state

At the end of dump extraction process, the software will pop up a window where in which the user has to enter the necessary details for creation of the dump files as shown in below figure 3.1.2.1.2-2.

This window will allow the user to configure the necessary fields required for debugging the dump; this window requires the following fields to be updated in order to proceed further.

- Dump Path

  User has to select the destination folder path using  (browse button). Or user can directly type the path in this field.

- Serial No

  This field is provided for entering the serial number of the device for which the dump is collected.

- Product Part Number

  This field is provided for entering the part number of the device for which the dump is collected.

- License Plate Number

  This field is provided for entering the License Plate Number of the device for which the dump is collected.

- Truck Voltage
  This field lists the available power supply variants to which the BVDR was connected. Using this drop down list user has to select the appropriate power supply variant used for the BVDR device for which the dump is collected.

- OK
  After configuring all the fields, click on this button to complete the dump extraction process. If the user clicks on this button without configuring all the fields, then an appropriate error message will popup to convey the user. As shown in below figure 3.1.2.1.2-3.

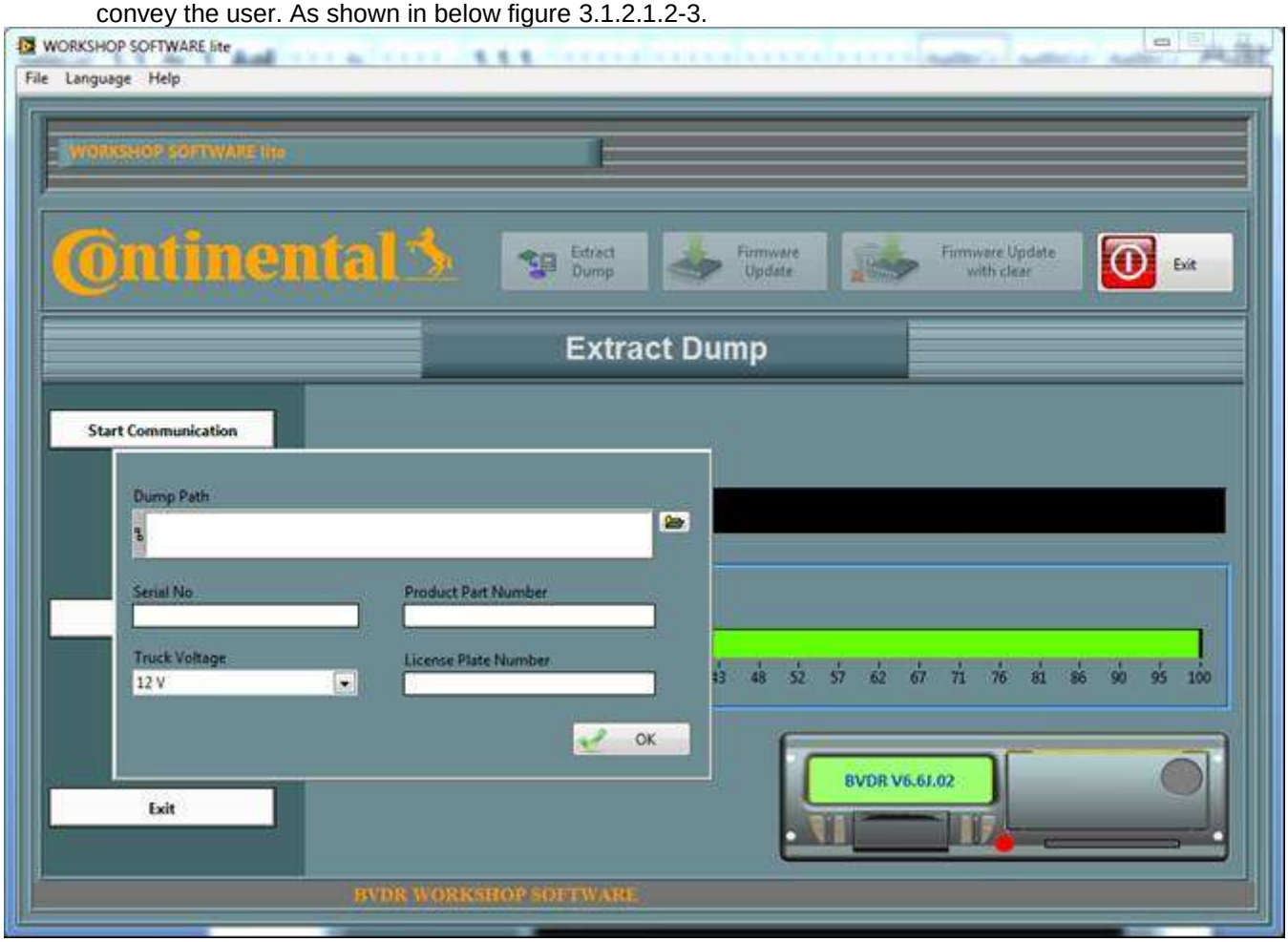


Figure 3.1.2.1.2-2: Workshop Software lite Extract Dump Utility –Query Parameters window

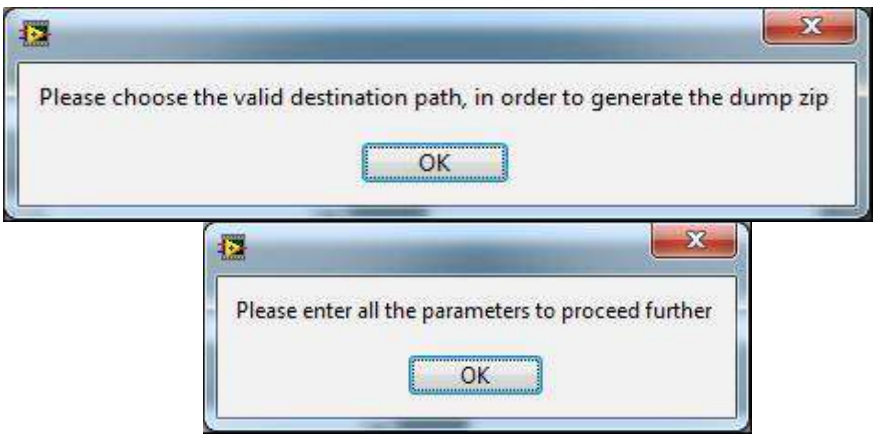


Figure 3.1.2.1.2-3: Workshop Software lite Extract Dump Utility –Query Parameters error

After configuring all the fields and clicking on OK button from the Extract Dump Query Parameters window, the dump zip will be generated and stored in the configured destination folder path. And also in the tool, a status message field displays the state of the operation as shown in below figure 3.1.2.1.2-4. The generated dump consists of 4 files as follows.

- DebugInfo_DD_MM_YYYY_HH_MM.txt
- RTCREAD_DD_MM_YYYY_HH_MM.txt
- FRRC_DD_MM_YYYY_HH_MM.bin
- SFRC_DD_MM_YYYY_HH_MM.bin

Where “DD_MM_YYYY_HH_MM” is the current date and time at which the files were created.
The “Debug Info” file is combination of the fields data inputted in query parameter window.
FRRC file is the dump of FRAM.
SFRC file is the dump of SFLASH.

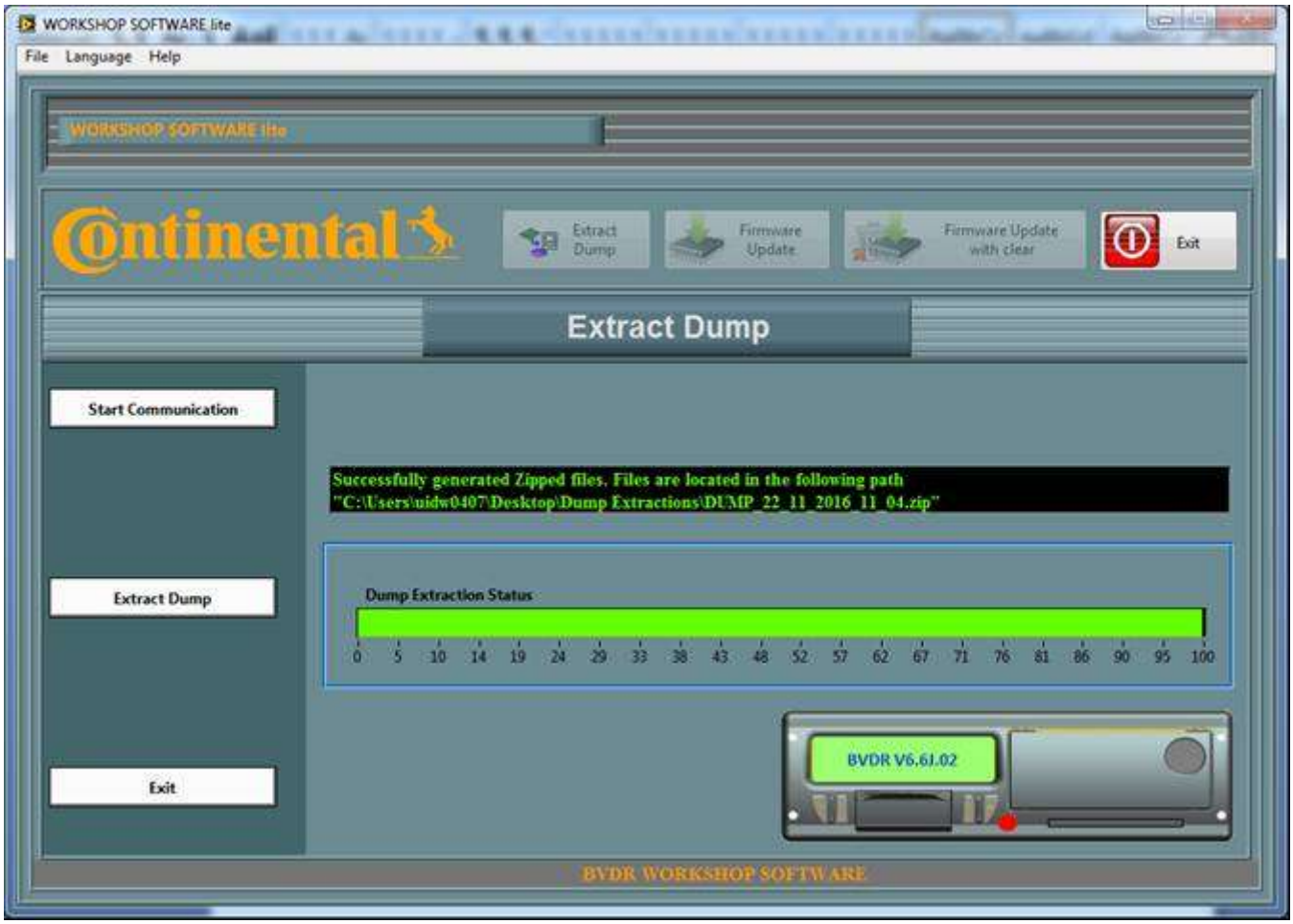


Figure 3.1.2.1.2-4: Workshop Software lite Extract Dump Utility – Extract Dump Completed

3.1.2.2 Firmware Update

Upon clicking on the “Firmware Update” button from the “workshop software lite main screen” (i.e. from figure 3.1-1), the “Workshop software lite Firmware Update” window will popup as shown in figure 3.1.2.2-1.

The figure 3.1.2.2-1 shows the ‘Workshop software lite Firmware Update utility’. This utility provides the following control operations for the user.

- **Start Communication**
  Click on this button to establish the communication between PCSW Lite and BVDR device.

- **Firmware Update**
  Click on this button to upgrade the BVDR device with the selected firmware.

- **Exit**
  Click on this button to quit the 'Workshop software lite Firmware Update utility' and return to 'Workshop software lite main screen'.

- **Menu Interface:**
  For "Workshop software lite, Extract Dump utility" the menu provisions remains same as that of the workshop software lite main screen. But Backup DLN and Restore DLN menu provisions will be disabled. Please refer to the following link for the detailed operation of the Menu Interface Provisions.

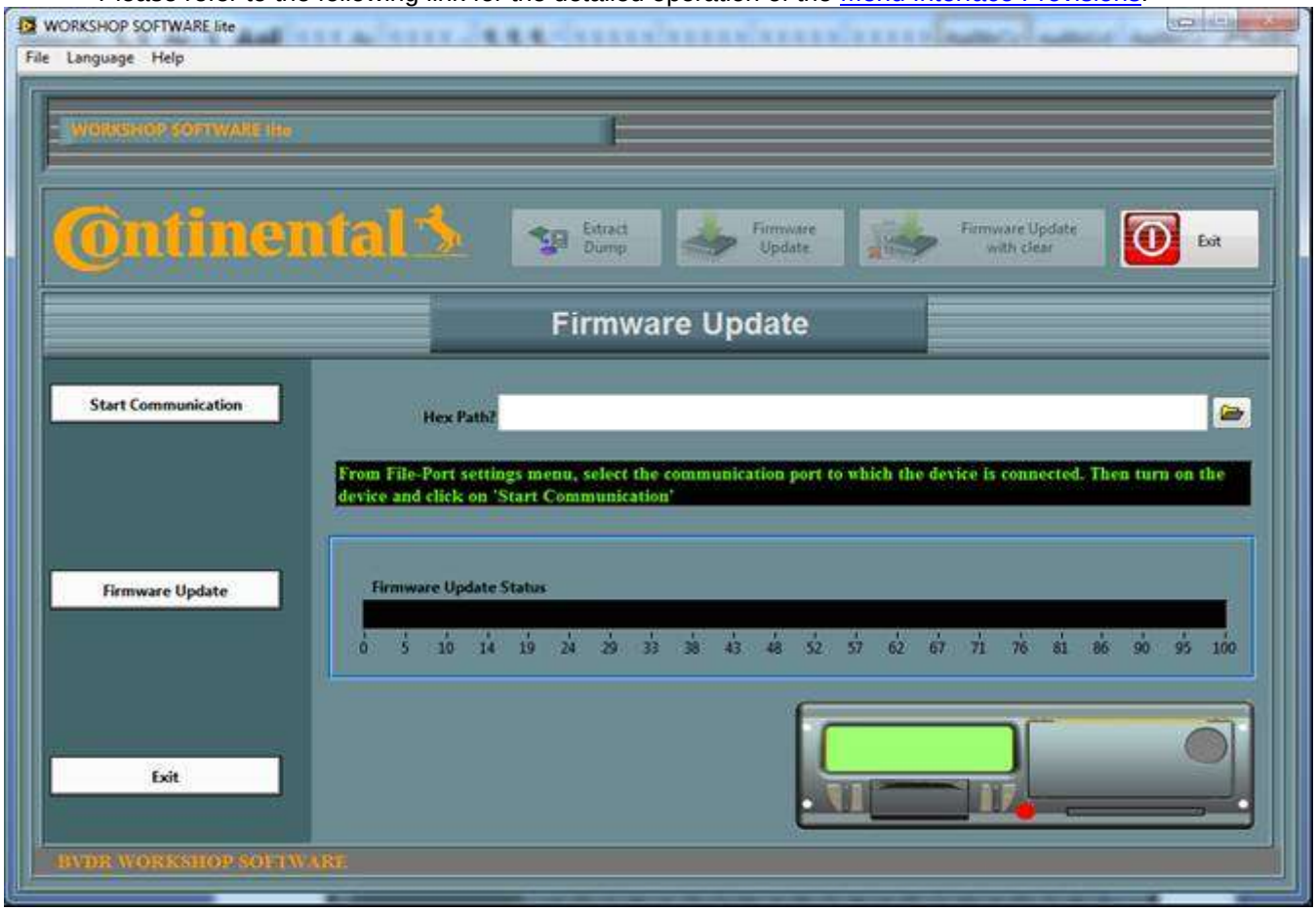


Figure 3.1.2.2-1: Workshop Software Lite Firmware Update Utility

3.1.2.2.1 Start Communication

Upon requesting this option, the "Workshop software lite Firmware Update utility" will initiate the DC DLN backup process. If the backup process is successful then user can click on the OK button to proceed with the upgrade process as shown in below figure 3.1.2.2.1-1. In case there is any error while retrieving the backup then appropriate error message will be displayed on the 'status string'. Now if user clicks on OK button then a confirmation message will be displayed to the user asking the confirmation for upgrade process. As shown in figure 3.1.2.2.1-2.

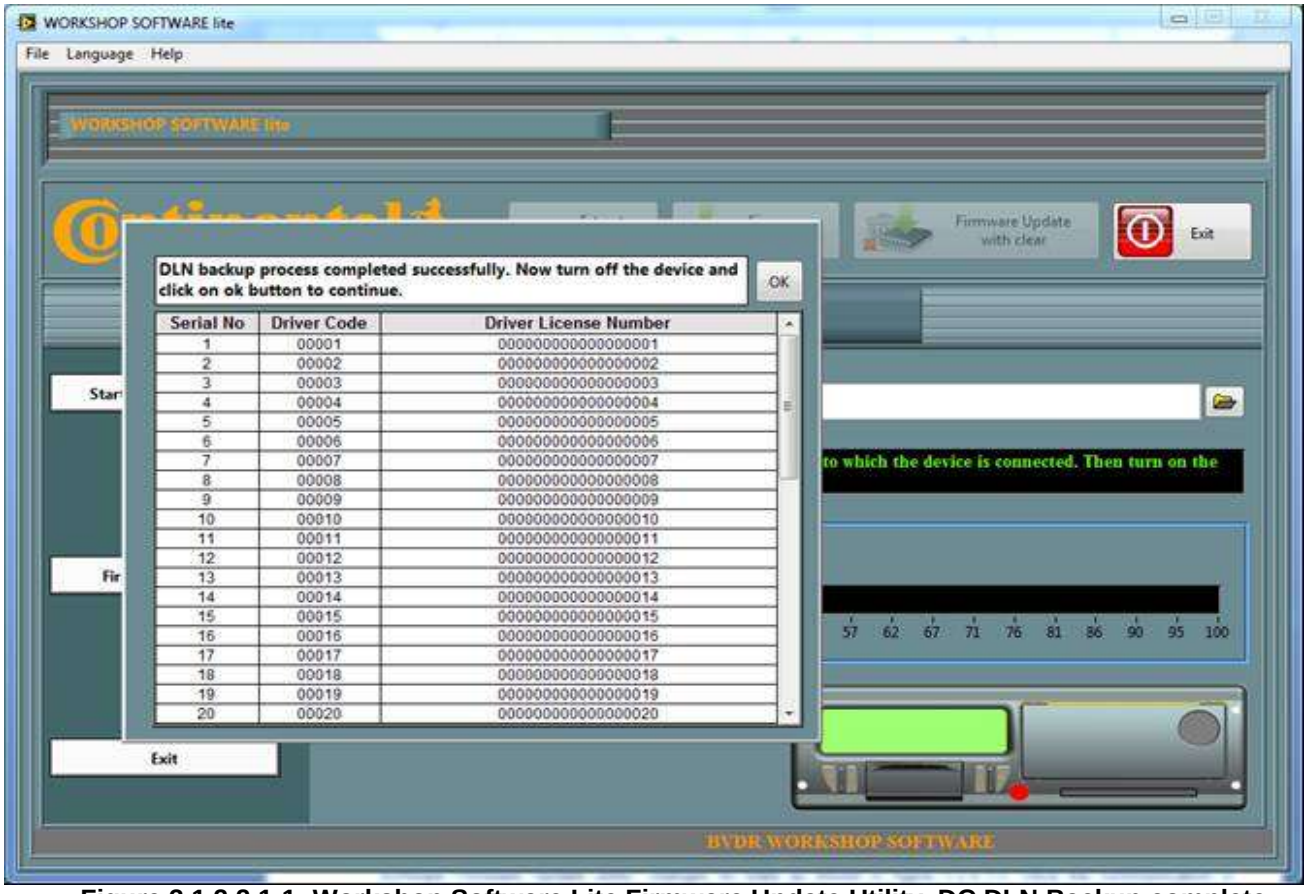


Figure 3.1.2.2.1-1: Workshop Software Lite Firmware Update Utility, DC DLN Backup complete

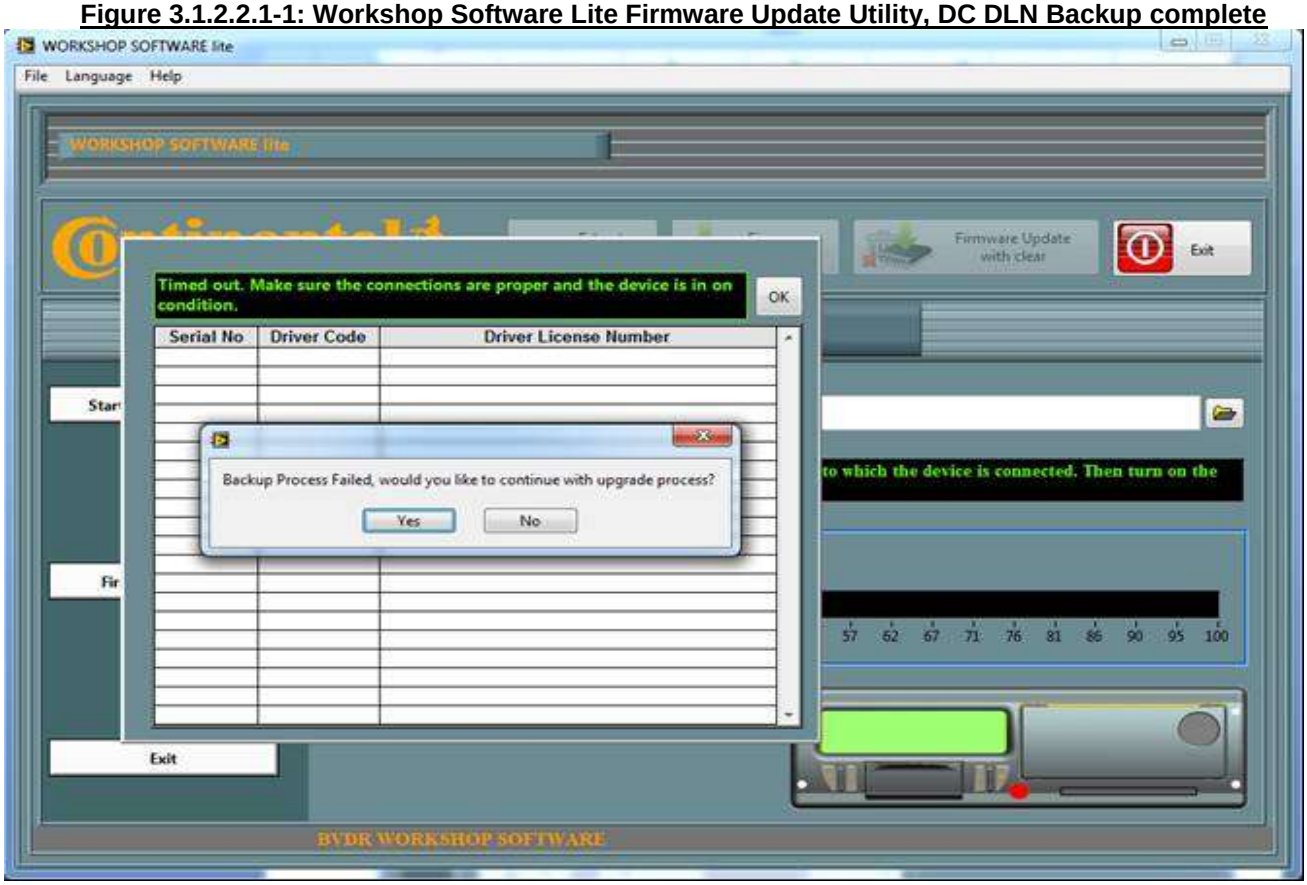


Figure 3.1.2.2.1-2: Workshop Software Lite Firmware Update Utility, DC DLN Backup failure

Here user can proceed with upgrade process by clicking on 'Yes' button, or quit the process by clicking on 'No' button. If user clicks on the 'Yes' button then user is prompted with the intimation dialog as shown in below figure 3.1.2.2.1-3.

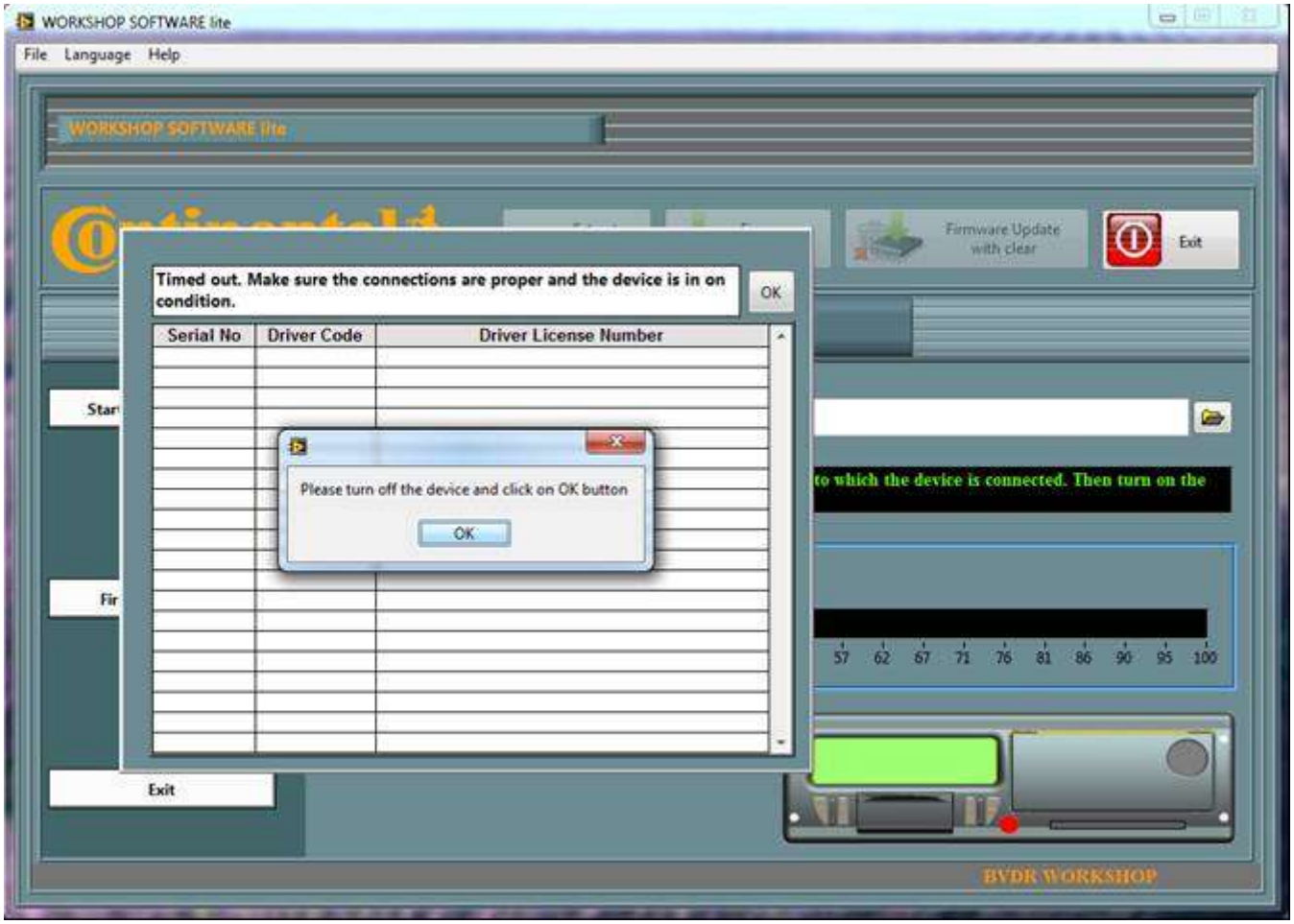


Figure 3.1.2.2.1-3: Workshop Software Lite Firmware Update Utility, Upgrade Process Confirmation

After confirmation user enters to the upgrade process then, the "Workshop Software Lite Firmware Update utility" will change its state as shown in below figure 3.1.2.2.1-4. And try to initiate the communication between PCSW Lite and BVDR device. Till the communication is established, the status string displays the message as "Performing Start Communication, Now turn-on the device" – as shown in figure 3.1.2.2.1-4.

The "Workshop software lite Firmware Update utility" will wait in this state till the communication is initiated or any error occurs. If any error occurs while initiating the communication then "Workshop Software Lite Firmware Update utility" displays the appropriate error in the 'status string' as shown in figure 3.1.2.2.1-5. Otherwise the "Workshop Software Firmware Update utility" changes its state as shown in figure 3.1.2.2.1-6.

Once the communication is active the software reads the existing version and last firmware updated time from the device and displays on the 'status string'. If there is no upgrade to the device so far, then only version number will be displayed on the 'status string' as shown in figure 3.1.2.2.1-7. The version number is also displayed on LCD screen area of VDR image as shown in figure 3.1.2.2.1-6.

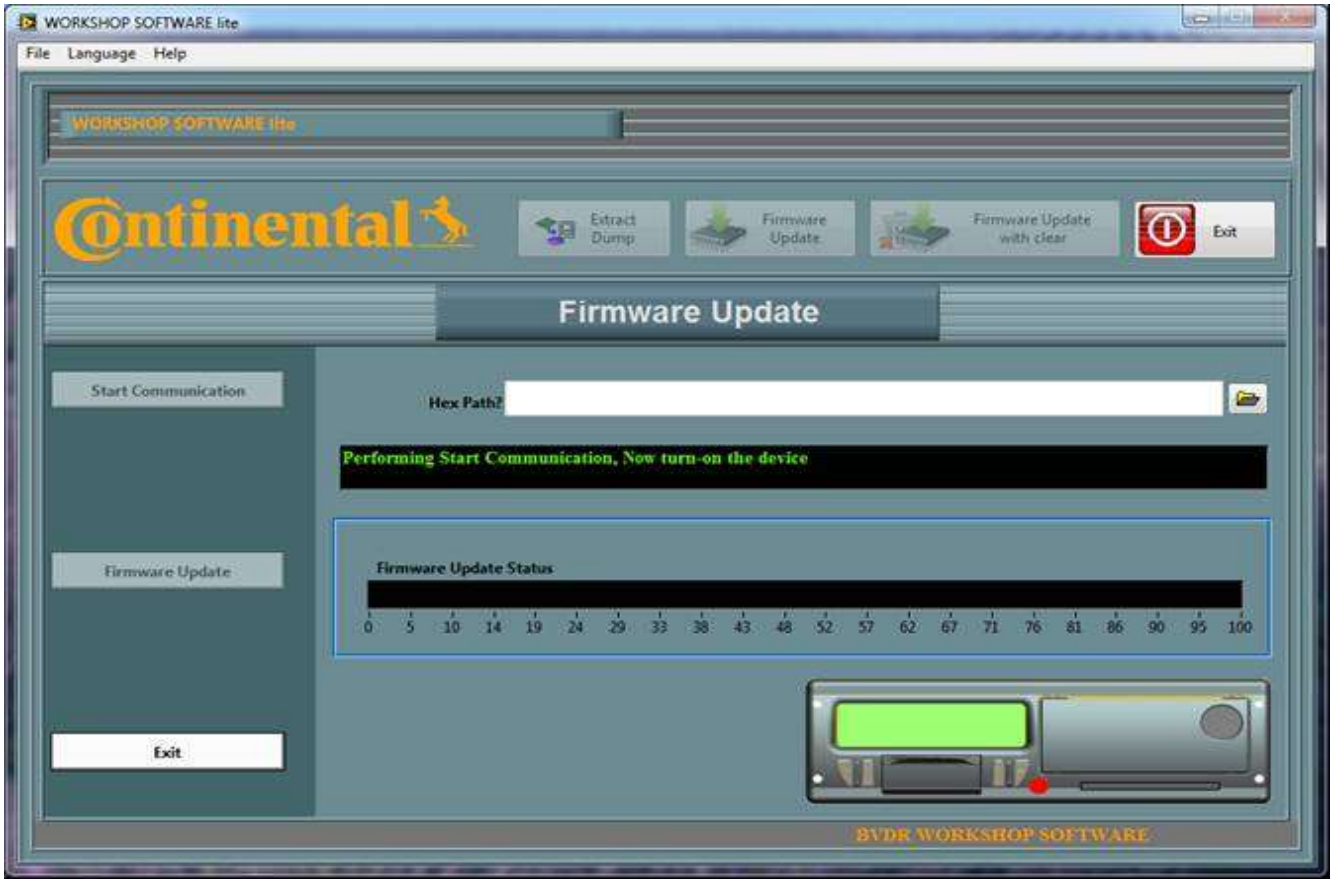


Figure 3.1.2.2.1-4: Workshop Software Lite Firmware Update – 'Performing Start Communication' state



Figure 3.1.2.2.1-5: Workshop Software Lite Firmware Update – error state (Start Communication failure)

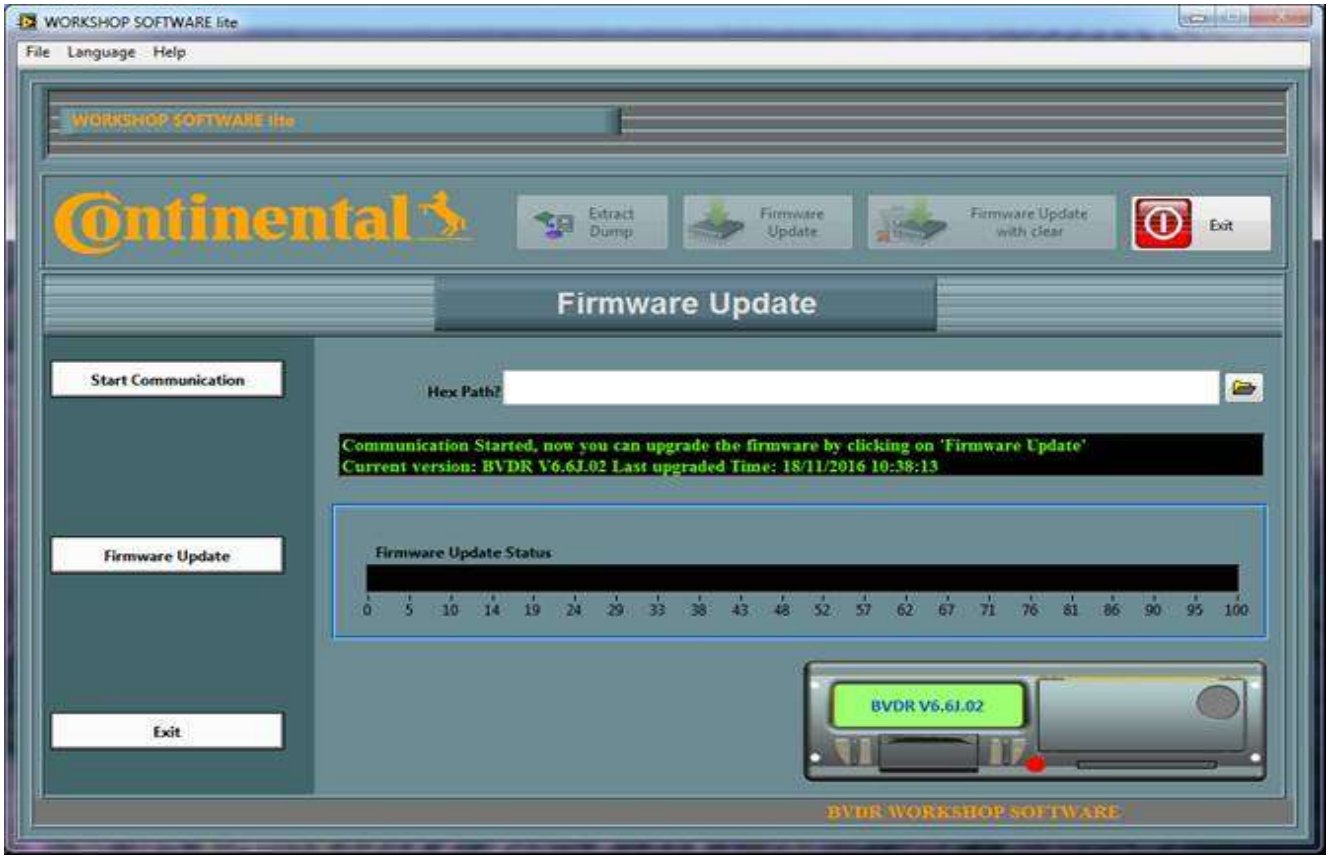


Figure 3.1.2.2.1-6: Workshop Software Lite Firmware Update Utility – 'Communication Started' state



Figure 3.1.2.2.1-7: Workshop Software Lite Firmware Update Utility – 'Communication Started' (Fresh device) state

3.1.2.2.2 Firmware Update

Before proceeding with the upgrade process user has to select the required firmware using the “Hex Path?” field. Here user can select the firmware through zip file or hex files available in the “PCSW_Firmware” folder (This is a pre defined folder of PCSW lite). For this to work properly the user should select the proper zip file supplied or already unzipped hex file available in the PCSW Lite tool’s predefined folder. If user tries to select the hex file or zip file from any other folder (Other than predefined folder) then an appropriate error message will be displayed to the user.

Once the communication is started, user will be able to upgrade the BVDR firmware by clicking on this button. Before clicking this button user should select the valid hex file path corresponding to the firmware version to which user want to upgrade the BVDR Firmware. Upon requesting Firmware Update option, if Hex File path is not available then user will be prompted with an error message as shown in figure 3.1.2.2.2-1. After selecting a valid Hex Path and clicking on Firmware Update option, the “Workshop software lite Firmware Update utility” compares the selected hex file’s firmware version with the device firmware version. If the device contains the latest firmware, then user will be prompted with an intimation dialog as shown in figure 3.1.2.2.2-2. If the device firmware version is same as the firmware version of file then user will be prompted with a confirmation dialog as shown in figure 3.1.2.2.2-3. If the device firmware is old and the selected firmware is the latest one then user will be prompted with a confirmation dialog as shown in figure 3.1.2.2.2-4. From any of the confirmation dialog window user will be able to get into the upgrade process by clicking on the “Proceed” button or will be able to cancel the upgrade process by clicking on the “Cancel” button.

Once user clicks on the “Proceed” button from any of the confirmation dialogs, then a warning message will pop up for the user conveying that “The upgrade process will begin now, make sure the connections are not disturbed and the power is supplied throughout the operation” as shown in figure 3.1.2.2.2-5.

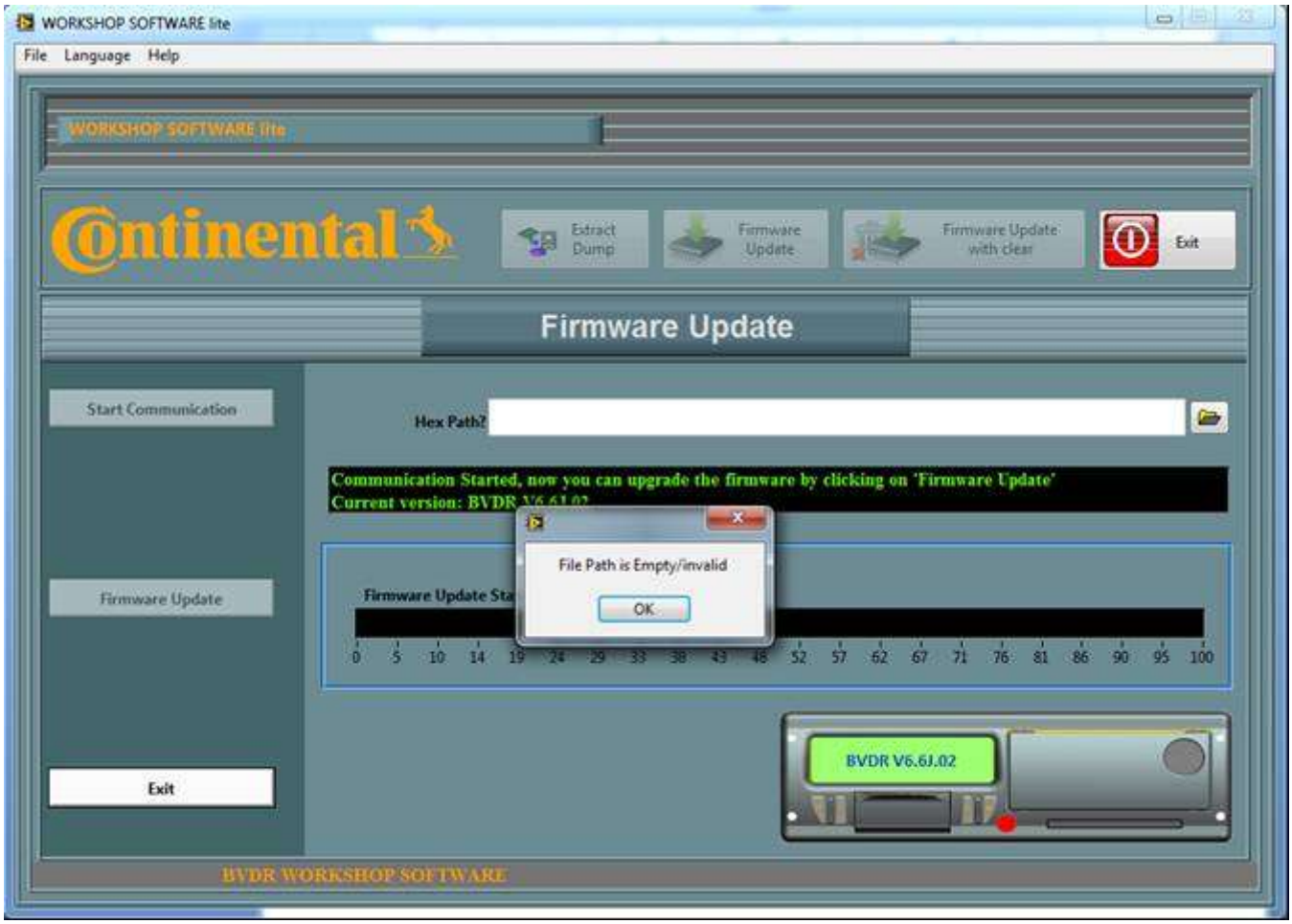


Figure 3.1.2.2.2-1: Workshop Software Lite Firmware Update – ‘Firmware Update’ req. (Invalid file) error



Figure 3.1.2.2.2-2: Workshop Software Lite Firmware Update– Old firmware selection intimation



Figure 3.1.2.2.2-3: Workshop Software Lite Firmware Update – Same firmware selection confirmation

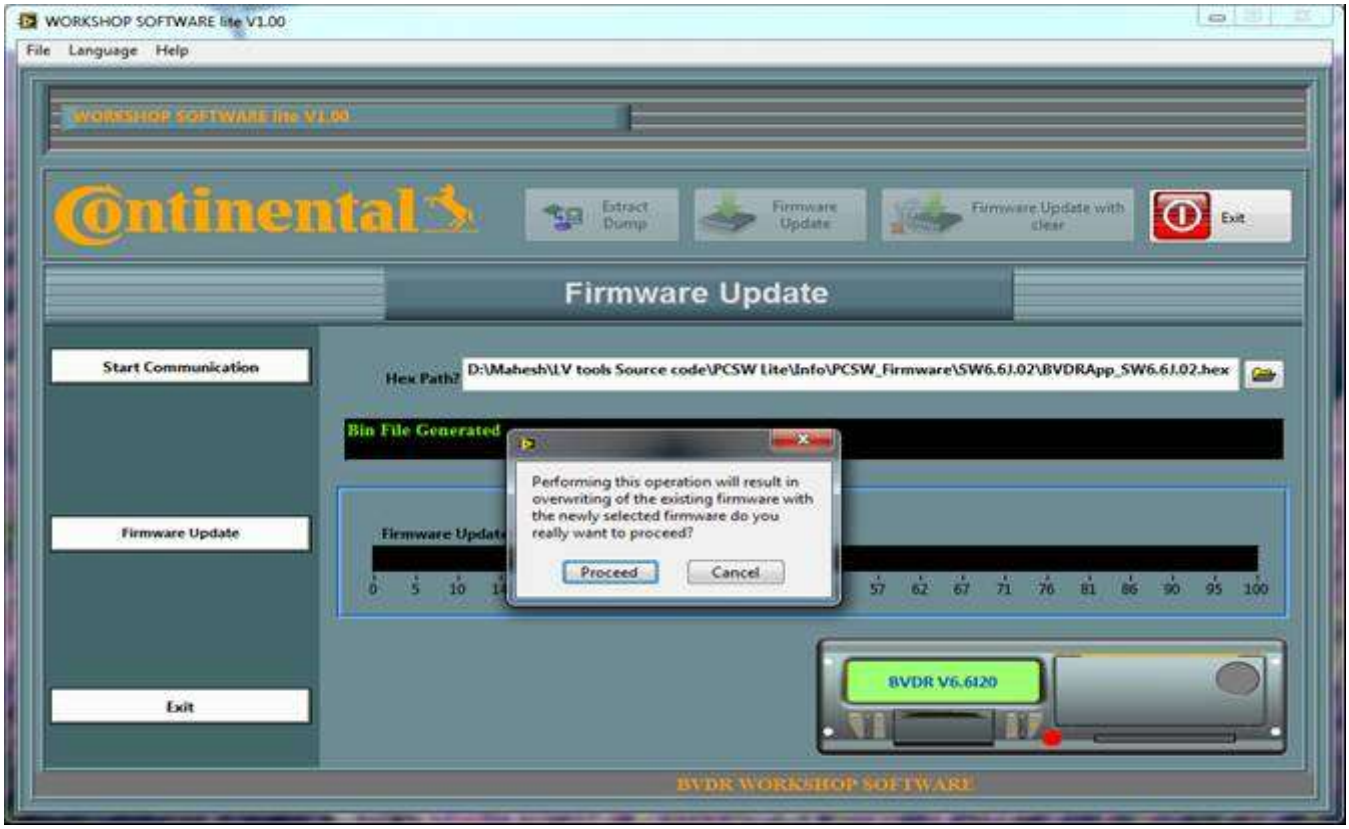


Figure 3.1.2.2.2-4: Workshop Software Lite Firmware Update –New firmware selection confirmation

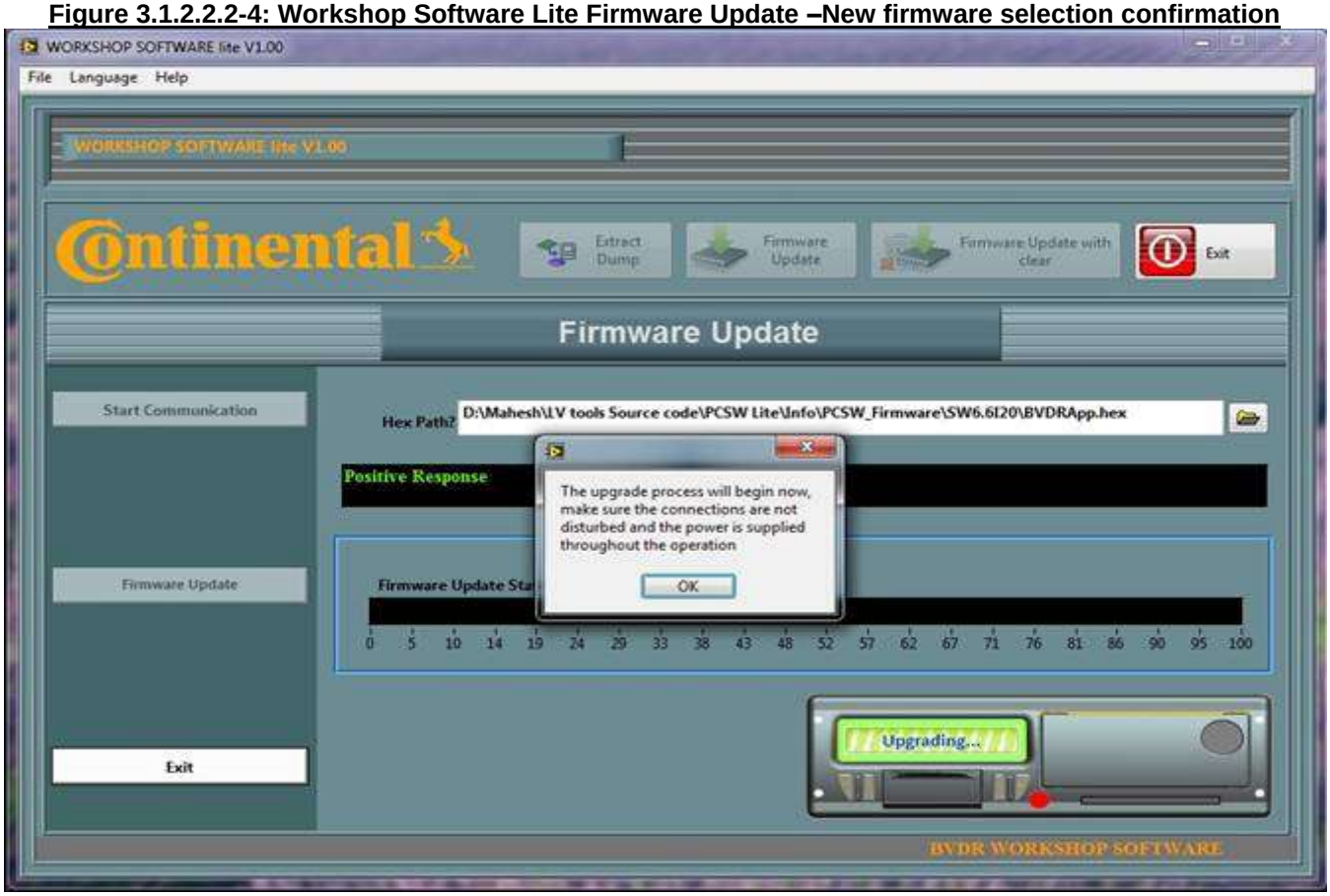


Figure 3.1.2.2.2-5: Workshop Software Lite Firmware Update – don't disturb the device warning

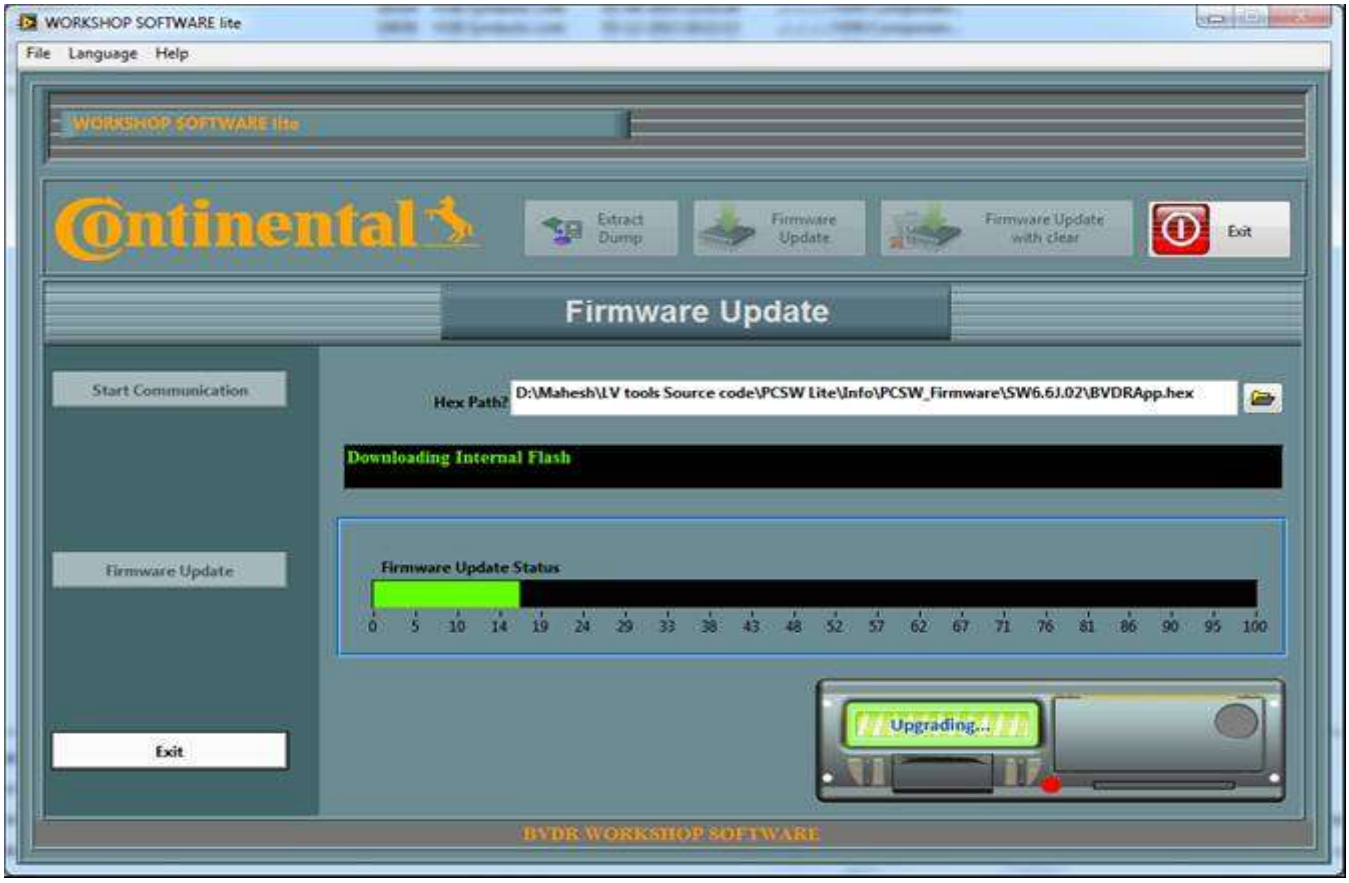


Figure 3.1.2.2.2-6: Workshop Software Lite Firmware Update Utility – 'Firmware Update' progressing state



Figure 3.1.2.2.2-7: Workshop Software Lite Firmware Update – 'Firmware Update' connection failure

Once firmware upgrade process is initiated by the user, the “Workshop software Lite Firmware update utility” will begin with firmware upgrade. While upgrading the device-firmware, the Firmware Update Status progress bar will convey the user about the upgrade status. And the status indicator will convey the operation states involved, as shown in figure 3.1.2.2.2-6. The status indicator also provides the hints to the user as well as displays the errors in case of any, while performing the firmware update as shown in figure 3.1.2.2.2-7.

Note: While updating the device-firmware if any error occurs due to power failure or connection failure, then user has to reinitiate the upgrading process.

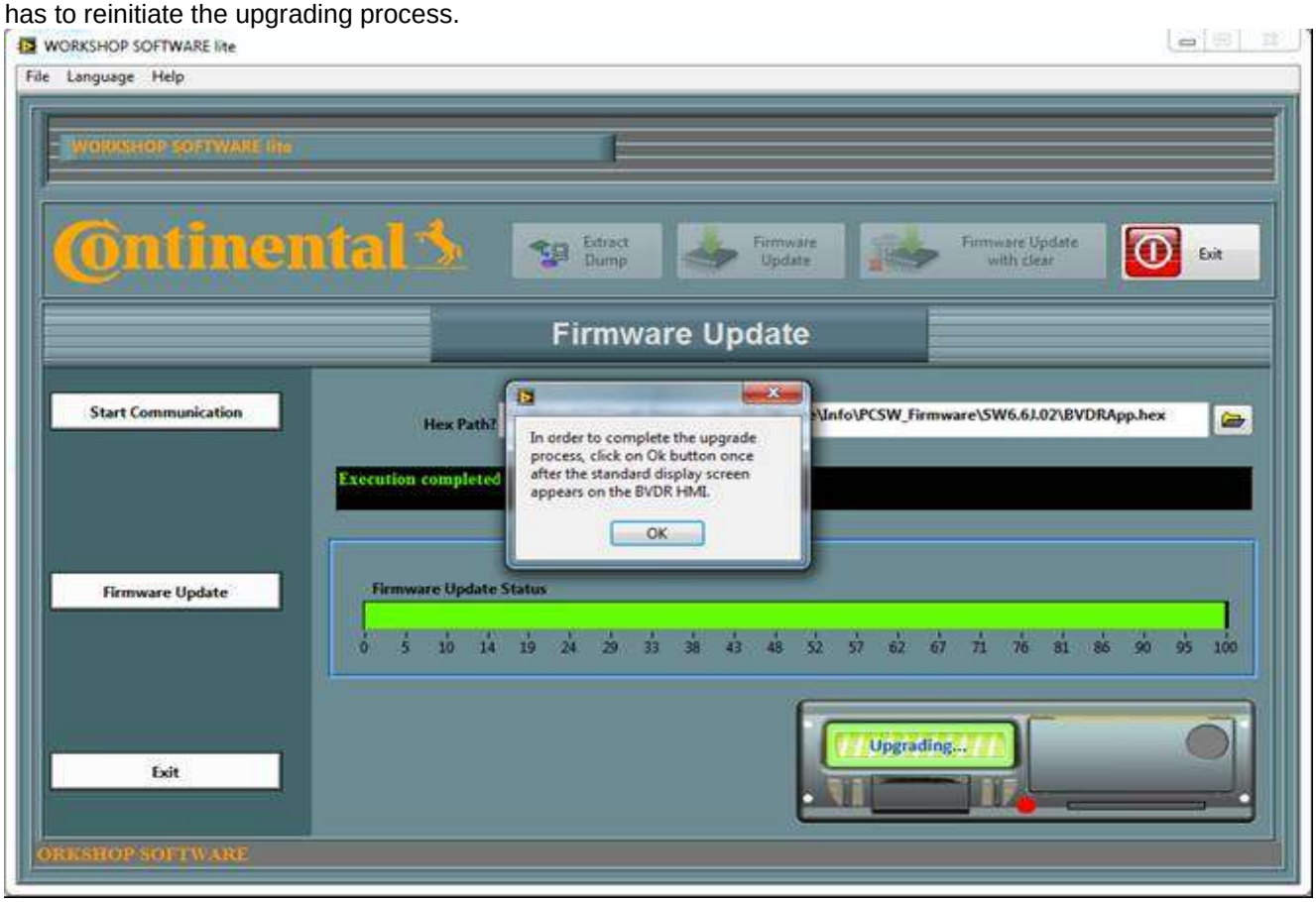


Figure 3.1.2.2.2-8: Workshop Software Lite Firmware Update – ‘Firmware Update’ final state

At the end of the upgrading process, user is prompted with an intimation dialog to restore the DC DLN list backup as shown in figure 3.1.2.2.2-8. This dialog will appear only if the DC DLN backup was taken successfully during the connection establishment between PCSW lite and BVDR.

This dialog is essential, since some of the upgrades result in data erase due to new data recording. In this case during first boot up the device enters in to data erase mode, so during this state it is not possible to restore the DC DLN backup. Hence there is dialog to the user so that, user can click on this dialog once after the completion of data erase i.e. when BVDR displays first standard display screen. Now if user clicks on the “OK” button from the intimation dialog, then PCSW lite will try to restore the already retrieved backup to the device. During this process busy screen is displayed to the user as shown in figure 3.1.2.2.2-9. After completion of this process, appropriate message is displayed to the user and “OK” button is made visible. Now user can proceed further by clicking on the “OK” button.

After completion of the Firmware upgrade process without restoring the DC DLN backup or by restoring the DC DLN backup, the PCSW Lite displays the version of the updated firmware in the ‘status string’ along with upgrade features as shown in below figure 3.1.2.2.2-10.

Upgrade features log will be created after successful upgrade with file name “VLPN_ value of VLPN.txt” for every BVDR device. Here the file name is determined by the user configured value of VLPN, if VLPN contains the characters which are invalid for windows file name they will be removed and only the valid characters are considered for file name. If all the characters are invalid then “Default” is used in place of VLPN value.

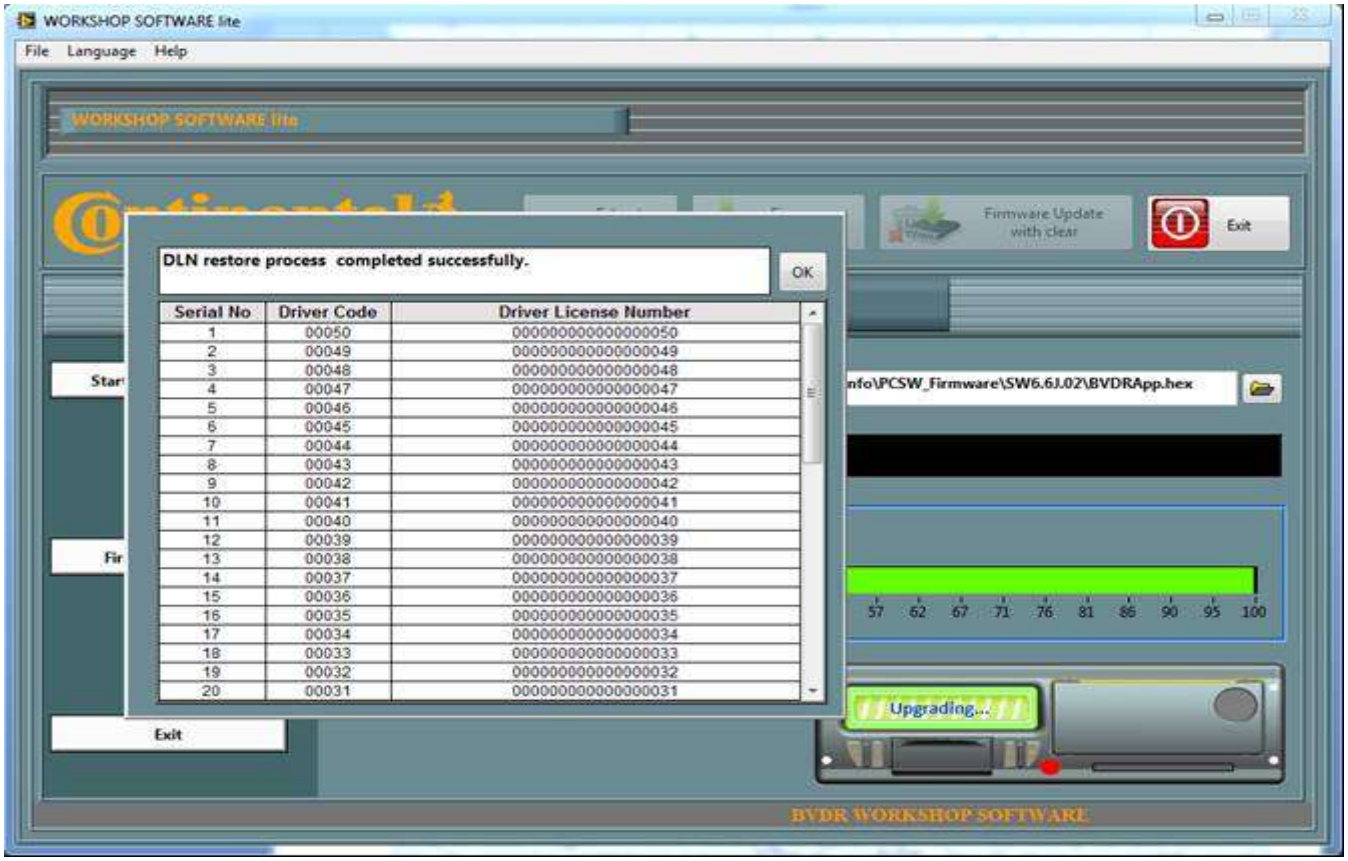


Figure 3.1.2.2.2-9: Workshop Software Lite Firmware Update – 'Firmware Update' Restore DC DLN List

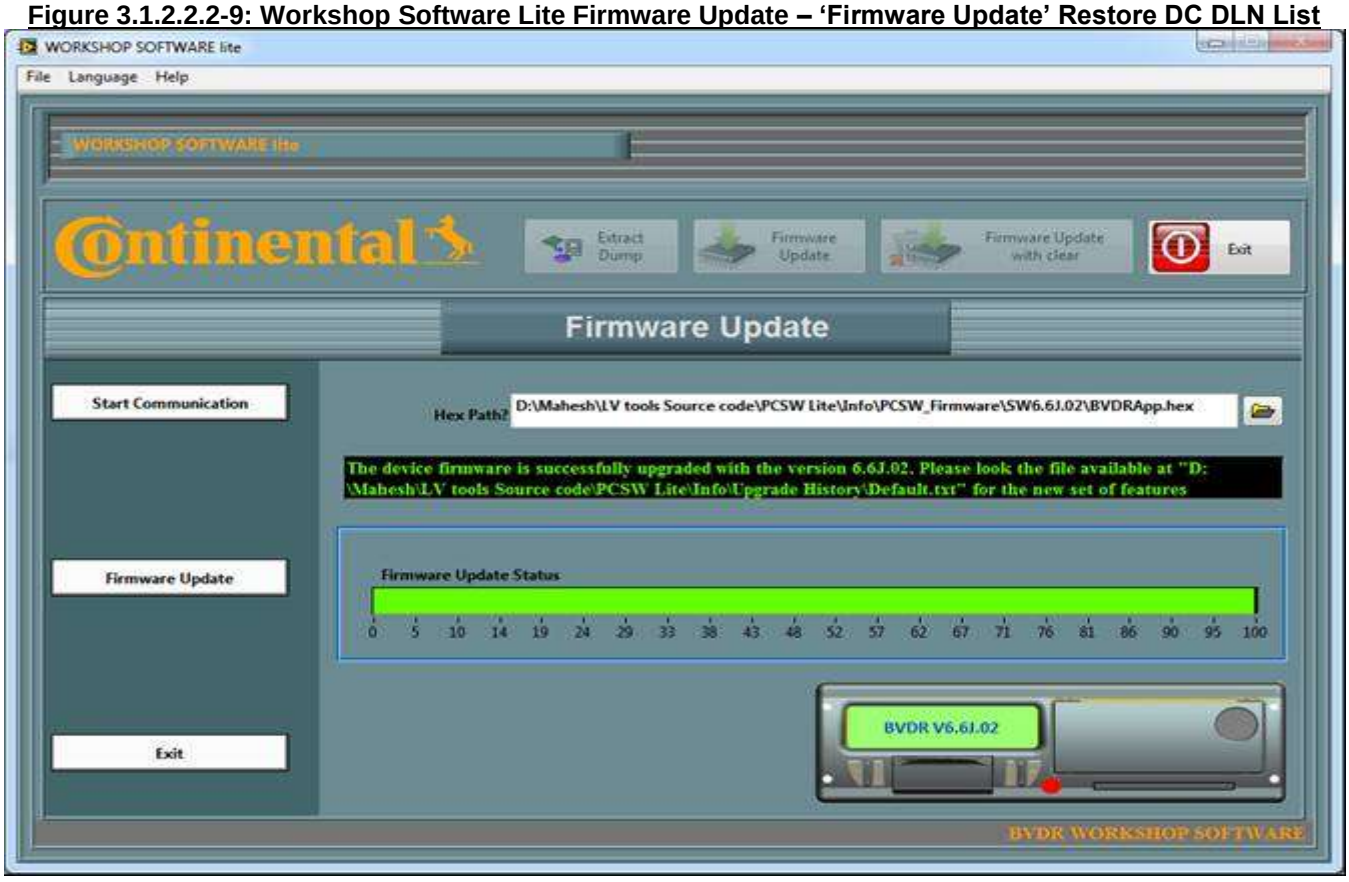


Figure 3.1.2.2.2-10: Workshop Software Lite Firmware Update Utility – 'Firmware Update' completed

3.1.2.3 Firmware Update with clear

Upon clicking on the “Firmware Update with clear” button from the “workshop software lite main screen” (i.e. from figure 3.1-1), the “Workshop software lite Firmware Update with clear” window will popup as shown in figure 3.1.2.3-1.

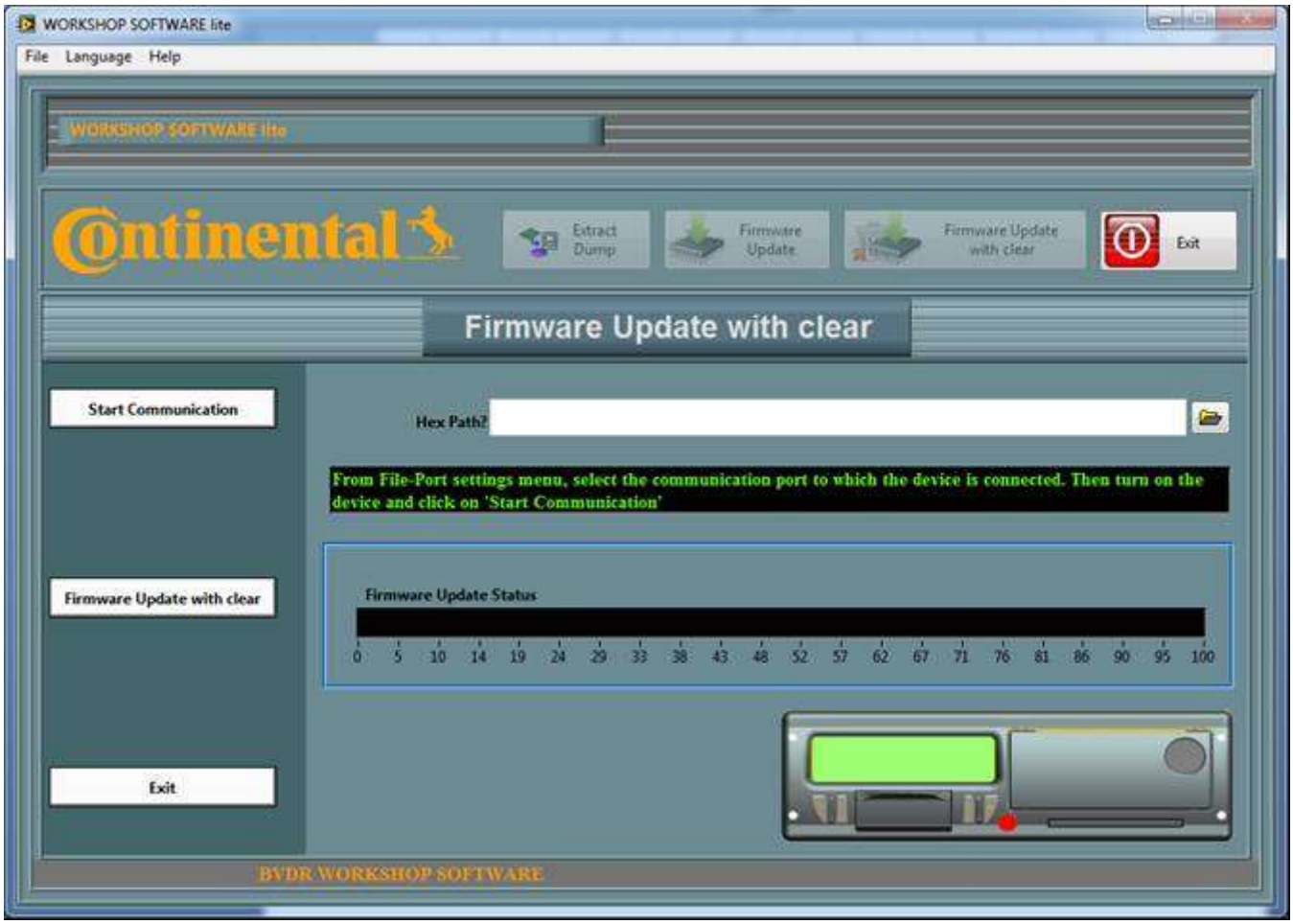


Figure 3.1.2.3-1: Workshop Software Lite Firmware Update Utility

The figure 3.1.2.3-1 shows the ‘Workshop software lite Firmware Update with clear utility’. This utility offers the same provisions offered by ‘Workshop software lite Firmware update utility’. Here only the difference is that, after the completion of every upgrade process the data erase is initiated to clear the recorded data in BVDR.

From user perspective there is no difference between the ‘Workshop Software Lite Firmware update utility’ and ‘Workshop Software Lite Firmware update with clear utility’.

3.1.2.4 Exit

Click on this button to quit the PCSW Lite application.

4 Working Environment Requirements

4.1 PCSW Lite Write Permission Access

The PCSW lite V1.10 requires the write permission in order to function properly. So user has to ensure the folder in which the PCSW lite executable is stored will have the write access, so that the dependencies can be created at run time if any of them are missing.

If user wishes to copy the PCSW lite executable to OS drive (Typically C:\) it needs to be carried out with administrative privileges, then only the partial write access can be converted into complete write access.

After taking the copy of the PCSW lite executable, user has to navigate to the parent folder properties of the executable and change the attribute to write permission as shown in below figure 4.1-1. This can be done by un-checking the Read-only check box available in the attributes section of the folder properties dialog.



Figure 4.1-1: Workshop Software Lite folder permission dialog

4.2 Adobe Reader Installation

It is mandatory to have any version of the adobe reader installed in the windows PC where in which PCSW lite is getting used. This is essential since the PC software lite is embedded with an electronic user manual and in order to access the user manual adobe reader is required.