

## TecNote 1014 – Installation instructions for Linux Operating Systems Hardware

The purpose of this TecNote is to assist the user in acquiring and installing software on Linux Hardware platforms. The procedure below will assist the user in acquiring the software from Trafficware and then executing it. The example procedure below installs V76.x or V80.x software on a Linux hardware platform. This includes the following controller hardware platforms: 980 ATC, Standard ATC (Green Machine) or 2070's using 2070-1C CPU boards.

### Requirements

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- Controller Hardware: 980 ATC, Standard ATC (Green Machine) or 2070's using 2070-1C CPU boards
- PC with a serial port
- USB flash drive (contents will be destroyed)
- Download cable to connect serial port to 980 ATC Controller or 2070 Controller. Contact your Trafficware representative for information on the proper cable to be used based on your controller hardware.

All Files to be downloaded are available via a support request. Please contact Trafficware support (<https://trafficware.zendesk.com>) by making a request for any of the following items listed in the table below:

File Name / Description
Rufus USB Formatter
TW Device Utilities
V76.x (Linux Build) - It will be an executable file
V80.x (Linux Build) - It will be an executable file

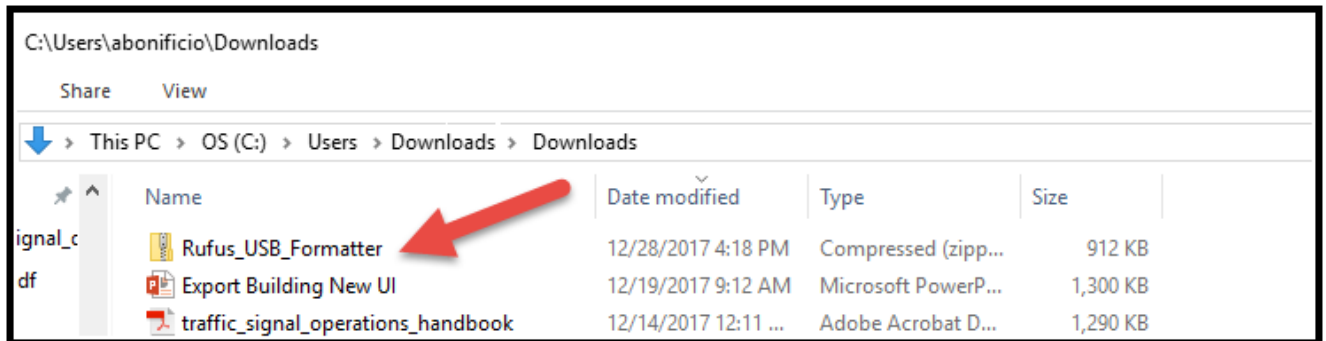
## USB Drive Formatting via the Rufus utility

The instructions below will assist the user in formatting and setting up the USB driver for the Linux installation.

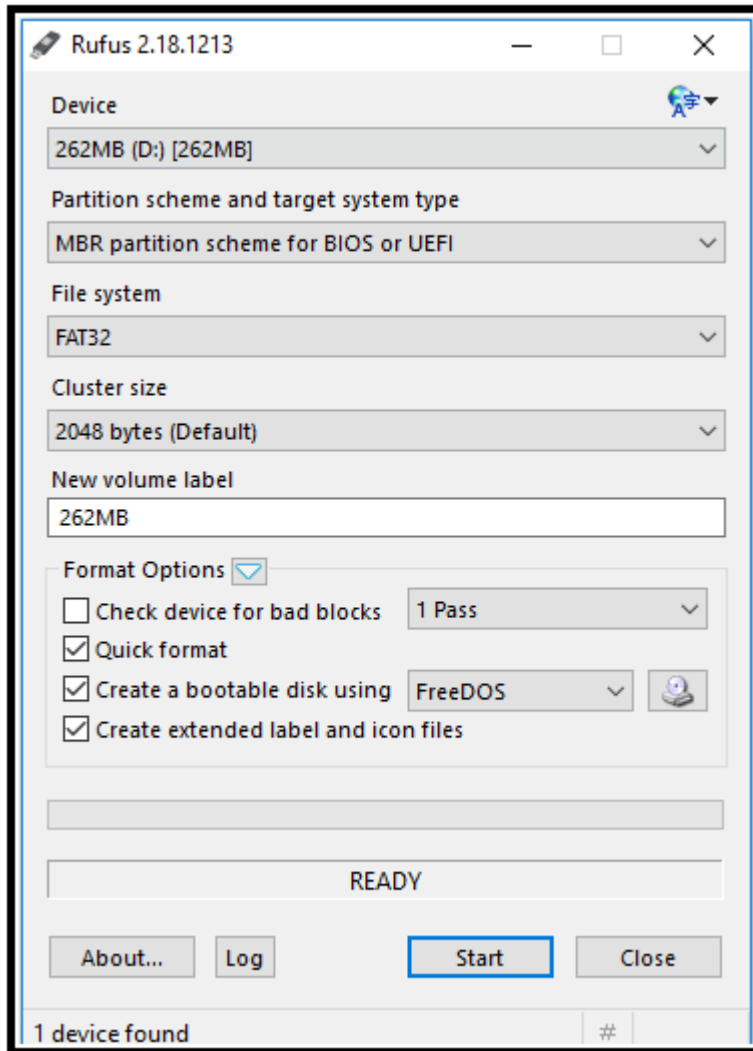
Get a USB flash drive. The drive must be compatible with USB 2.x or 3.x. A USB Flash drive version 1.x will not work. It is preferable that it is blank because this section will reformat the drive and all its contents will be destroyed.

Insert the USB in your Laptop/PC/Tablet.

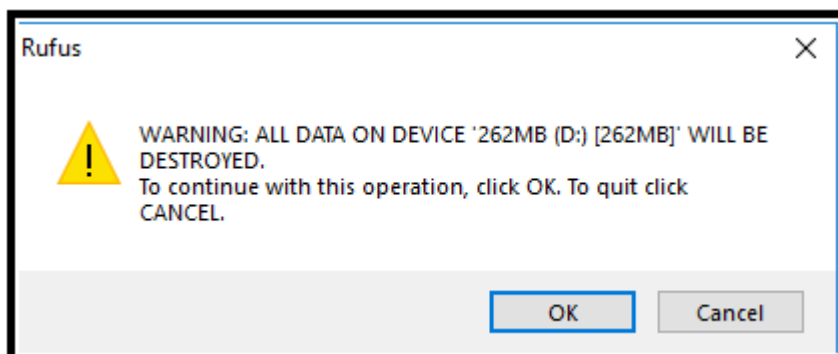
Download the Rufus USB tool and save it on a directory of your choice on your Laptop/PC/Tablet using the Link from the Table on Page 1.



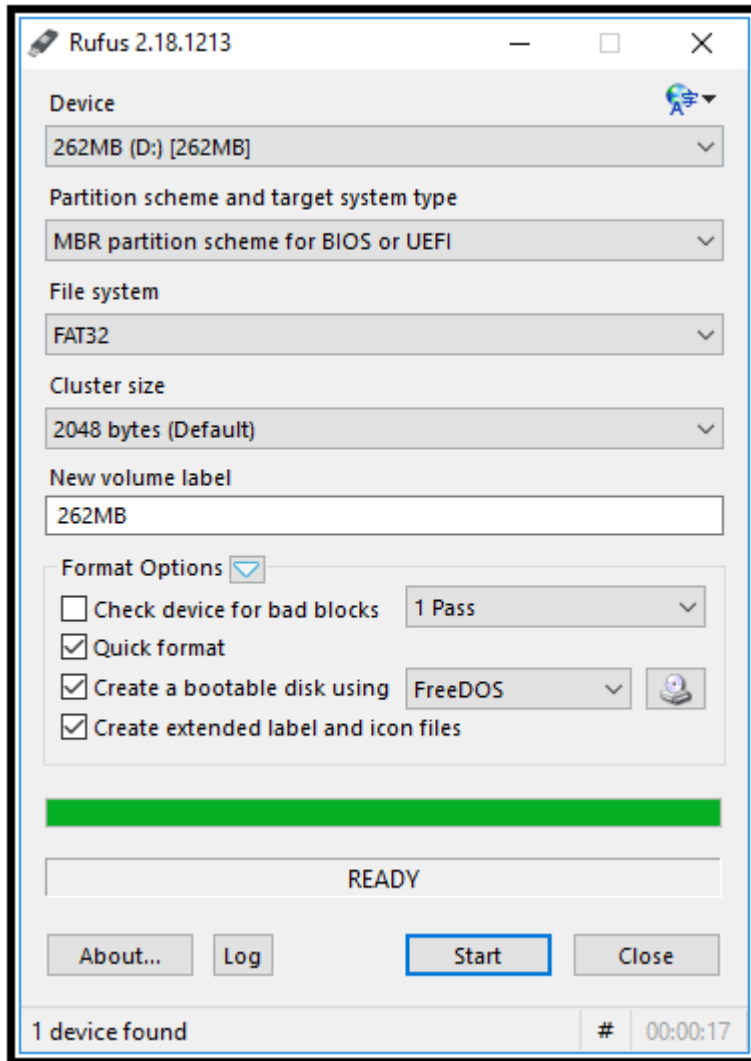
Unzip this file and save it to your PC under a folder of your choice. Insert the USB drive and run the Rufus tool to format the USB flash drive as FAT32, bootable. Below is a sample USB 2.0 drive whose default settings are for FAT32. Choose **Start** to start the reformatting process.



The following warning message will be displayed. Hit **OK** to continue the format

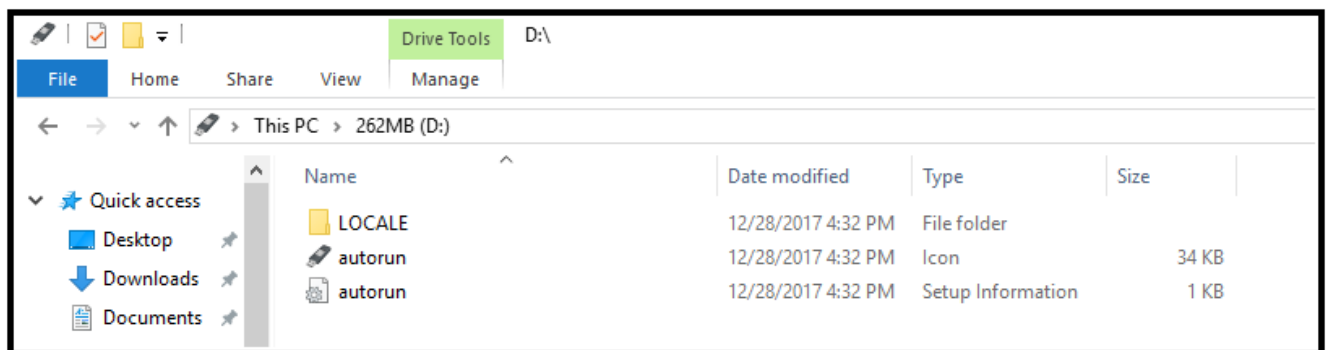


When the reformatting is completed, the following screen will be displayed.



Hit **Close** to exit the Rufus utility.

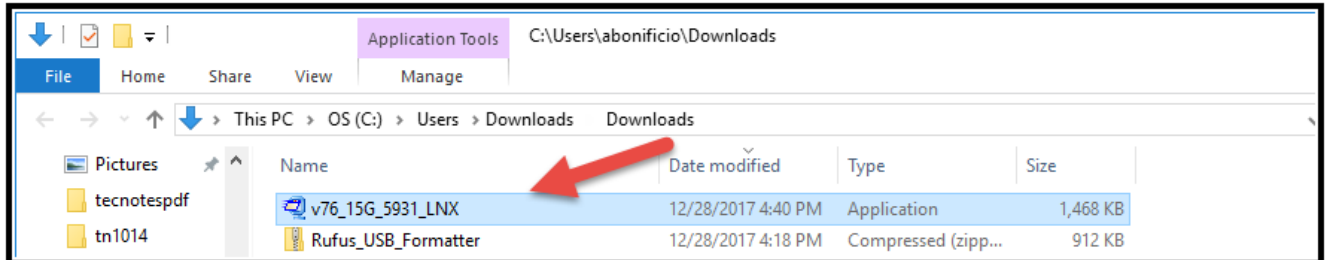
The reformatted drive directory structure should be as follows:



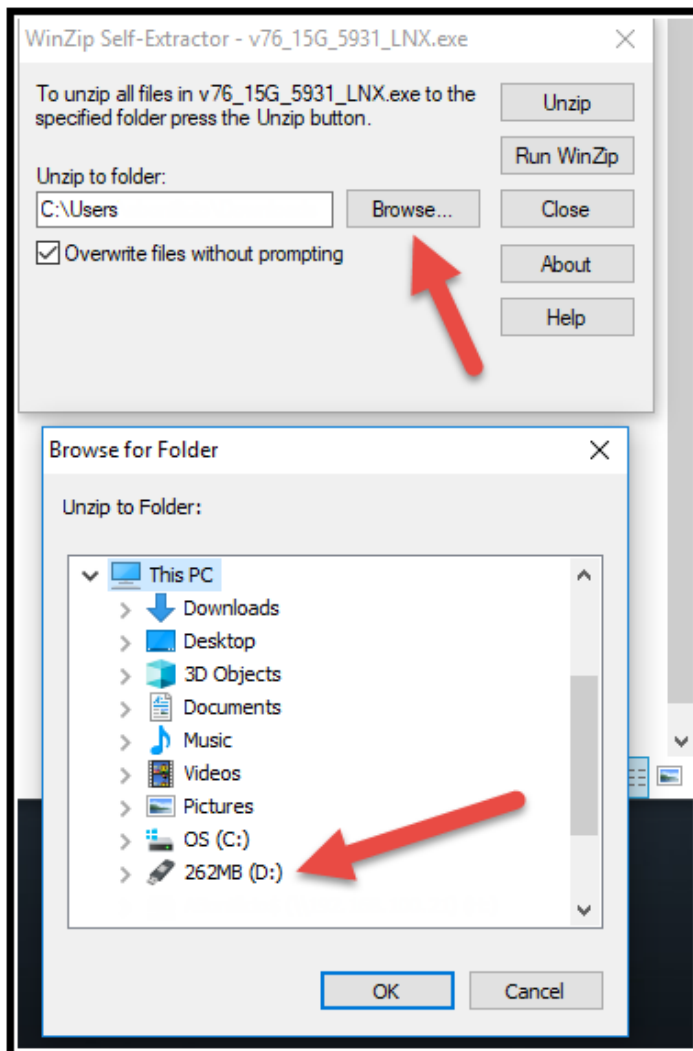
Notice that the drive chosen was drive D.

## Installation of the Linux files for direct USB Updates

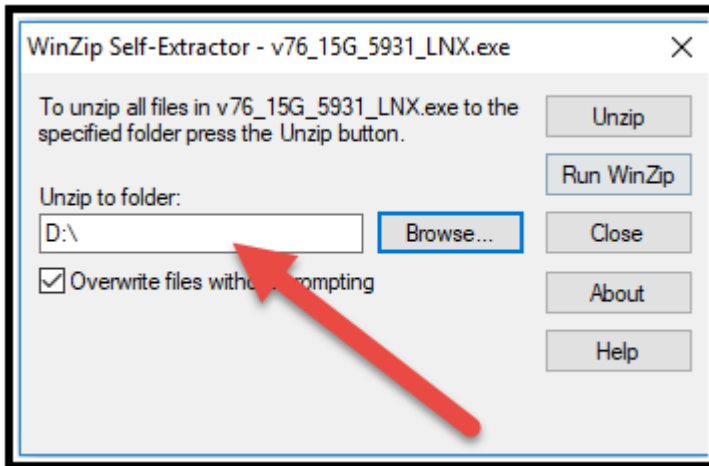
Using the link provided by Trafficware support, download the LNX.EXE file and save it on a directory of your choice on your Laptop/PC/Tablet using the Link from the table on Page 1.



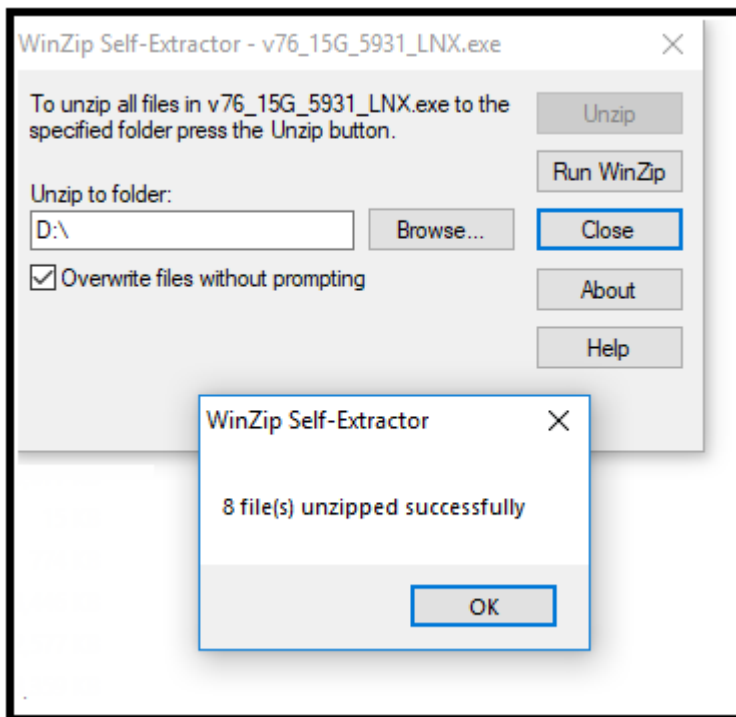
Run the LNX.EXE file received from Trafficware support.. When asked to specify a folder to unzip to, point to the drive letter of your USB flash drive (For example point to D:\).



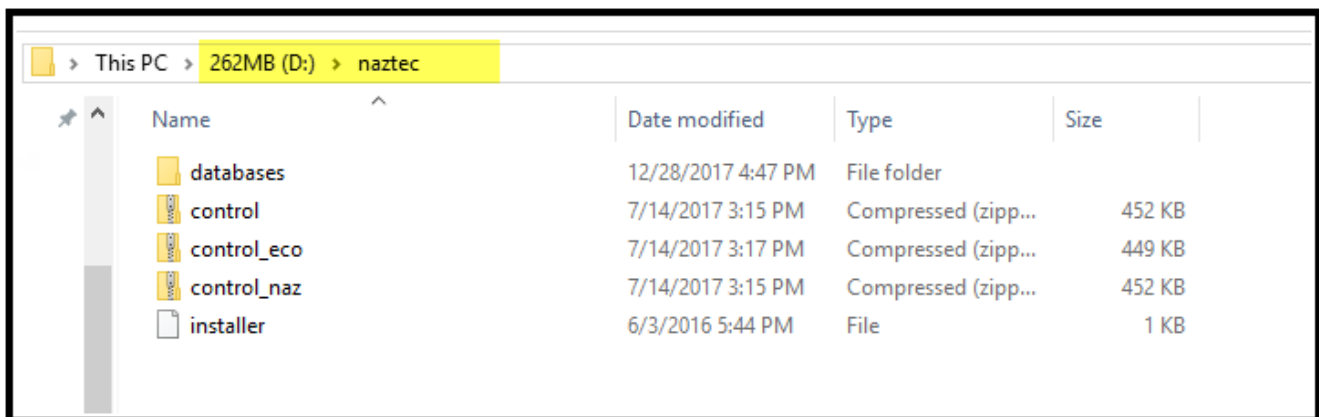
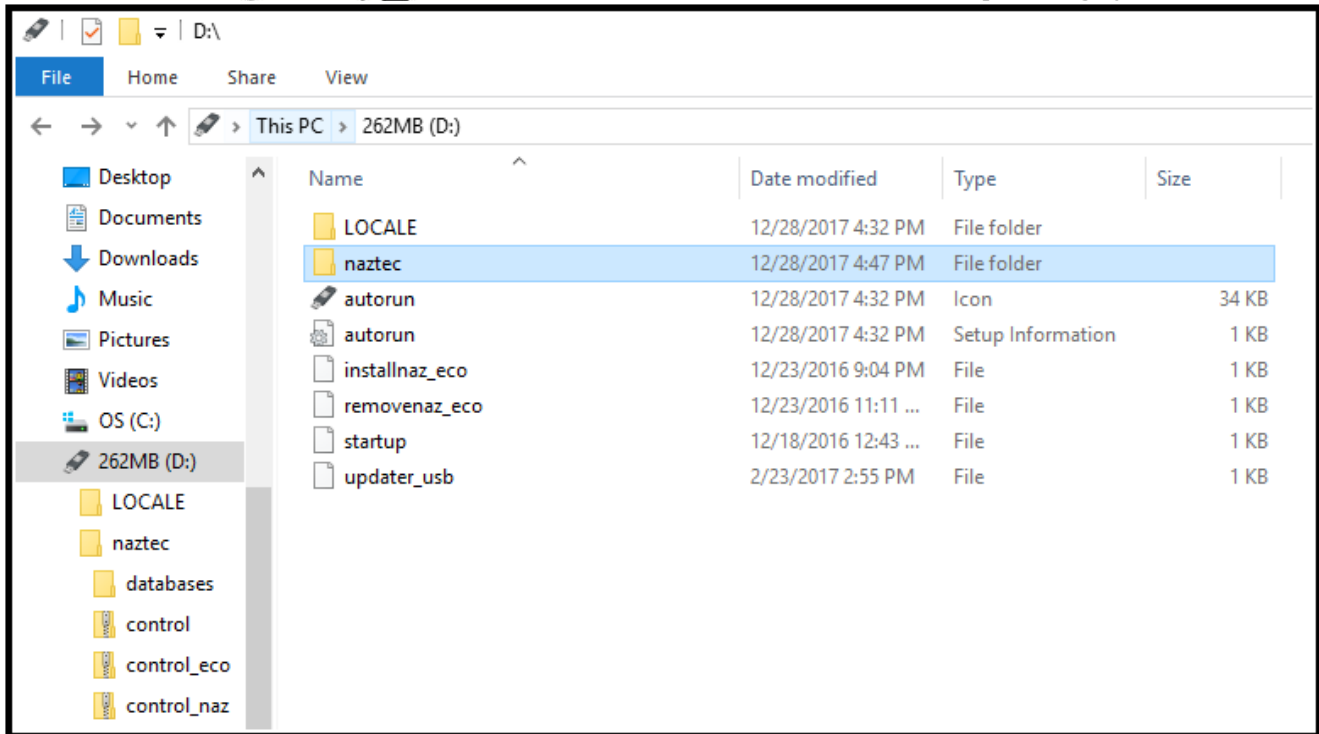
Once the USB drive is selected the Folder will change



Hit the Unzip button and the files will be installed and the following confirmation message will be displayed:



Your USB directory will be as follows:



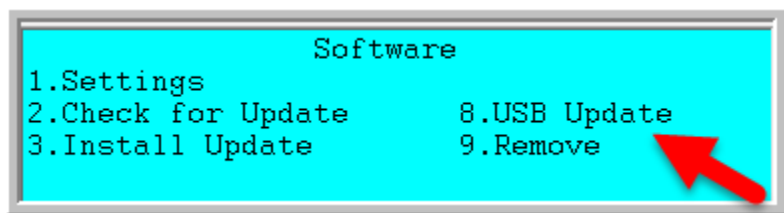
If any of the files are missing or out of place, the controller software update will fail. The databases folder is only required for the database backup and restore.

Be aware that the folder and files generated for the backup of the controller database can coexist on the same flash drive with the controller update folder and files.

If the USB Flash Drive will only be used to backup and restore the controller database, then only the folders \naztec\databases are required.

- control\_naz.zip is used to update the Naztec controller software on Trafficware hardware
- control\_eco.zip is used to update the Naztec controller software on Econolite hardware
- The optional control.zip is used to install Naztec controller software on Trafficware hardware which is running ValSuite.

For Controllers with Version V76\_15G or later there will be a screen directory that will automate the update for you. Go to MM-8-9 and you should see the following selection for the direct USB update.



Select Menu 8. It is assumed that the correct/desired version of control\_eco.zip and control\_naz.zip have been copied to the USB Flash drive

Turn off the Run Timer. Then insert the Flash Drive in the USB port of the controller. Wait for a few moments before selecting MM->8->9->8 so that the OS can mount the drive.

In the normal update operation, the screen will go blank, then the unit will restart twice. After that, the main operation screen will display and the unit will be ready to function with the updated software version.

If there are problems with the USB port or mounting the USB Flash drive, the screen will report “**Cannot mount USB**”. In that case, press the [ESC] key to return to the previous screen. Remove the USB Flash drive and restart this process.

Before turning on the Run Timer make any other configuration changes that may be required and turn on the Run Timer.

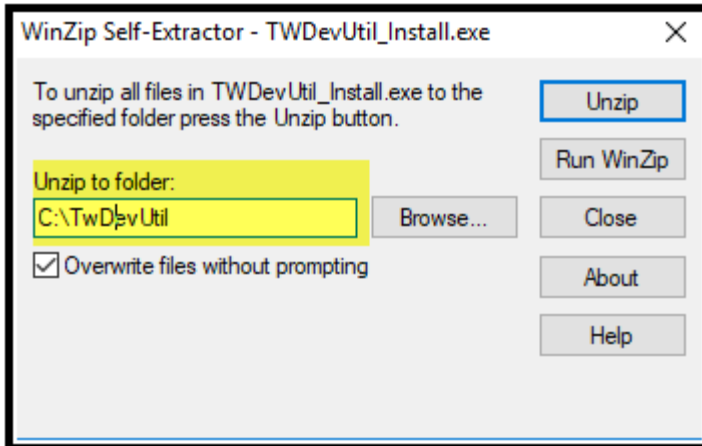
**Note: If Menu item 8 is not displayed then the user can go to the next section to install using the TW Device Utilities program or the section after that to install using the built in Valsuite program.**



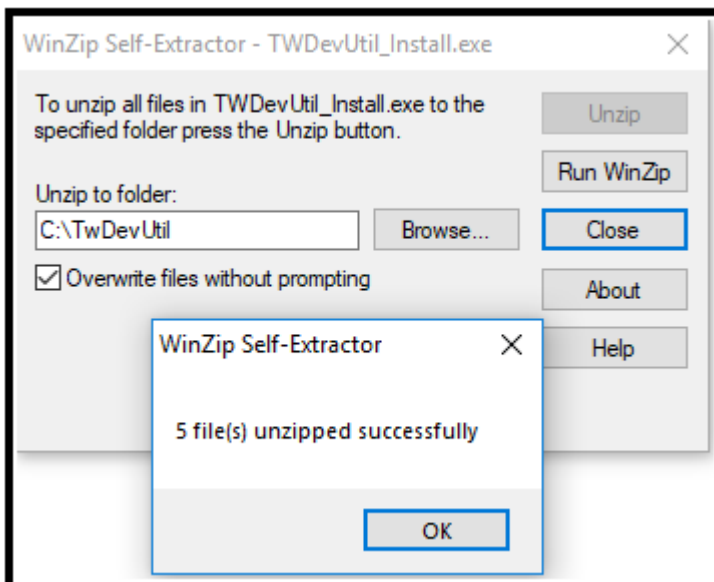
## TW Device Utilities Installation and Execution

Download TWDevUtil\_Install.exe and save it on a directory of your choice on your Laptop/PC/Tablet using the Link from the tanle on Page 1

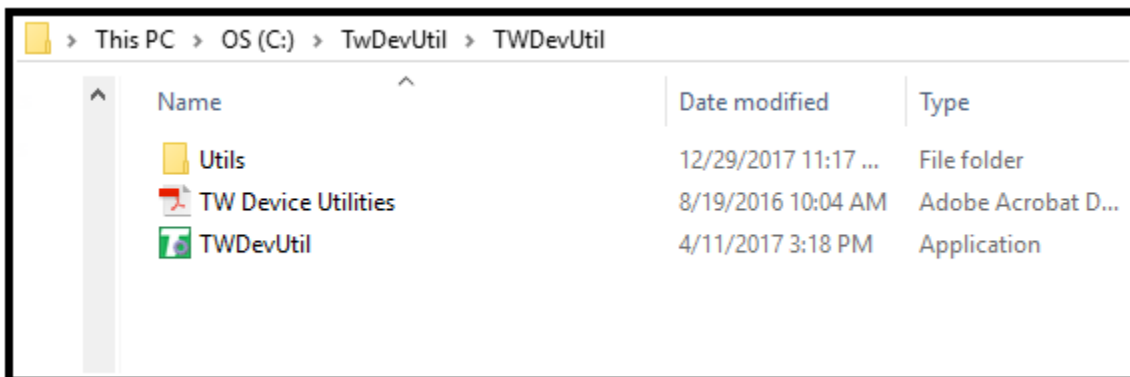
Execute TWDevUtil\_Install.exe. When asked to specify a folder, use “C:\TwDevUtil” (or whatever folder name that you choose.)



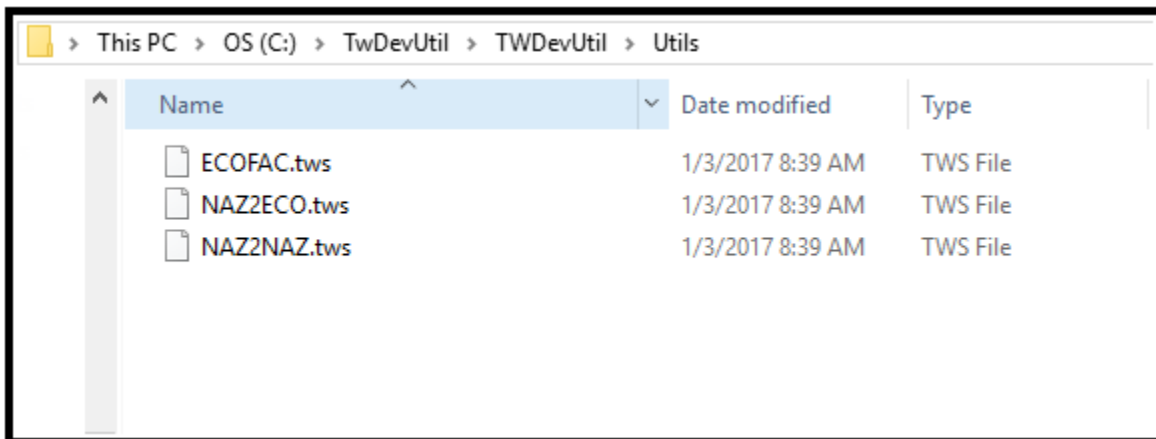
Hit the Unzip button and the files will be installed and the following confirmation message will be displayed:



Your directory will be as follows:

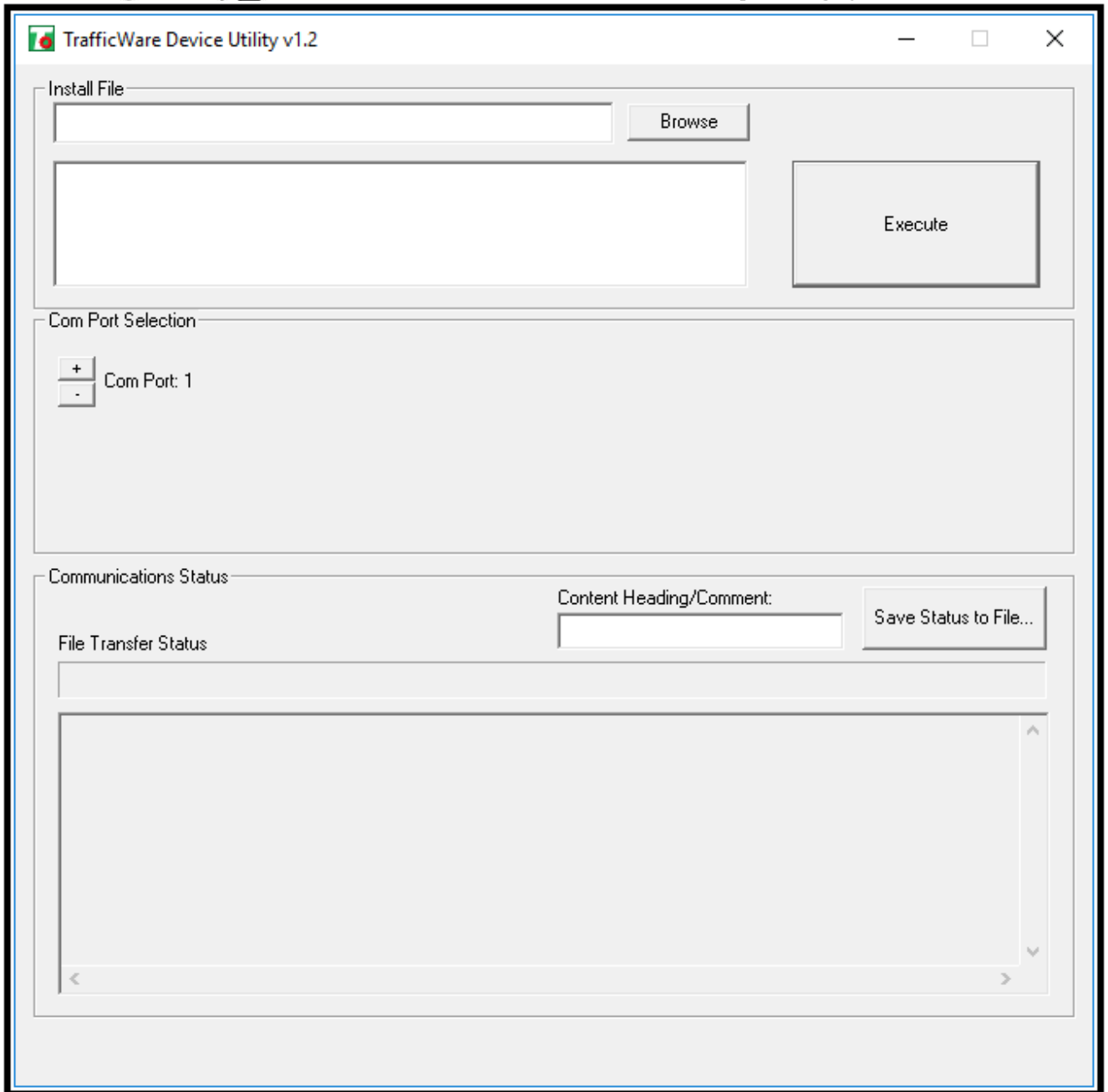


The directory Utils will be as follows:

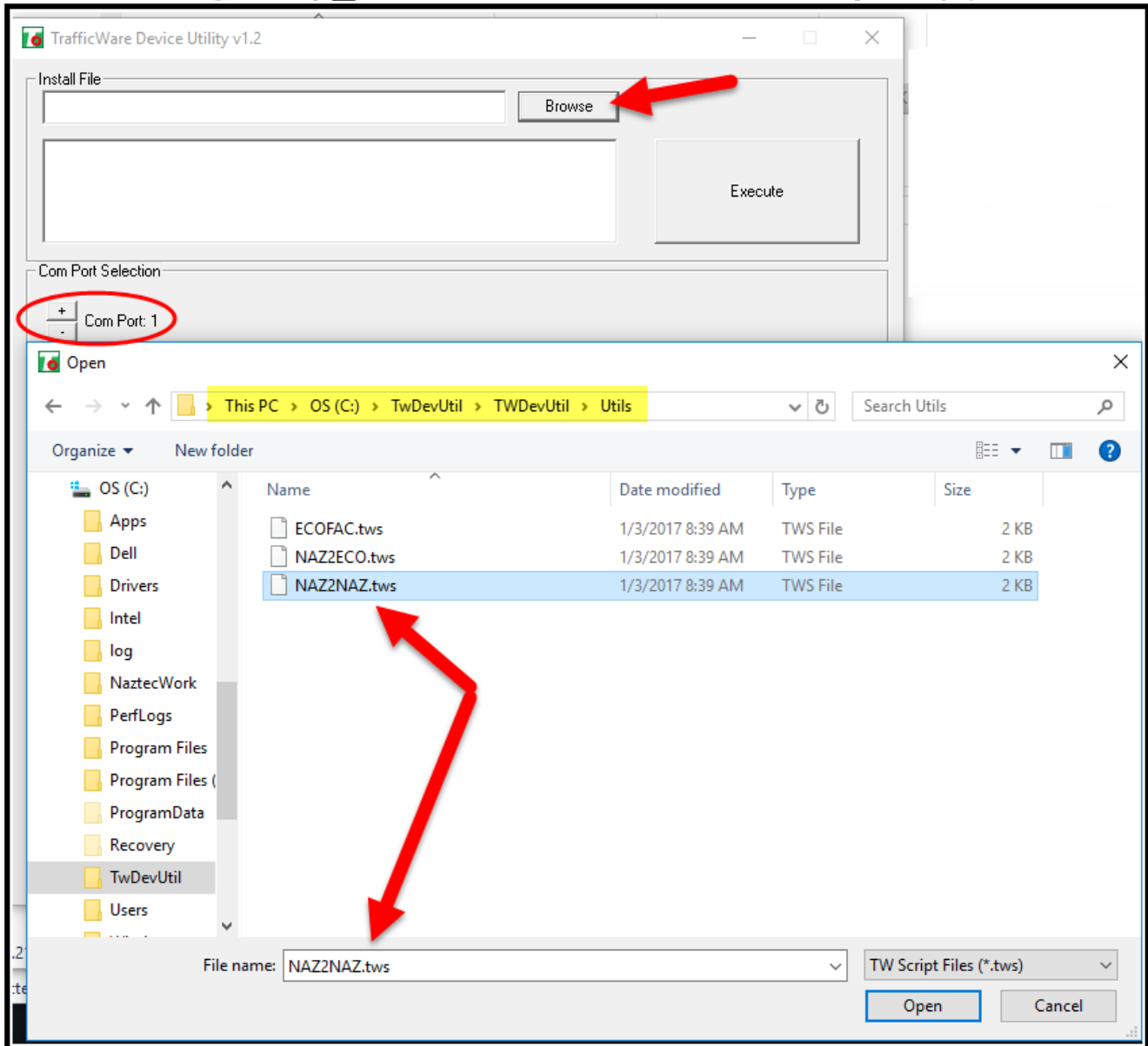


Connect the serial cable from the PC serial port to the controller serial port.

Using the My Computer or File Explorer utility in windows, go the folder where you extracted TWDevUtil and run “TWDevUtil.exe”.



Click “Browse” to select an install file. Then navigate to the c:\twdev\utils folder and select the file called “NAZ2NAZ.tws”. Also select the correct PC COM port that connects your computer to the controller.



Click “Execute”. You will get a dialog with a set of instructions.

- a. Turn off controller.
- b. Connect the serial cable (if it’s not already connected).
- c. Turn on the controller.
- d. Make sure the runtime light is NOT blinking.

At this point the tool will perform a software update. Wait until the process finishes (you’ll get a dialog box at completion). You can then power down the controller and power it back on, and it should be operational.

## Installation via Valsuite: “Remove software”

- 1) Do not insert the USB Memory drive in the ATC at this time.
- 2) You must disable the Run Timer at MM->1>7 prior to updating the software.

```
Run-Enable Control

Run-Enable Status: OFF
Change to: OFF
```

- 3) Navigate to MM->8->9 to remove software.

```
Software

1.Settings
2.Check for Update      8.USB Update
3.Install Update        9.Remove
```

```
WARNING WARNING WARNING WARNING WARNING
The software will be completely removed.
This will take a few minutes.

Are you sure? NO
```

- 4) Older software used a code. If requested, enter the code **7250** or toggle to **YES** and hit enter.

```
•WARNING WARNING WARNING WARNING WARNING
The software will be completely removed.
This will take a few minutes.

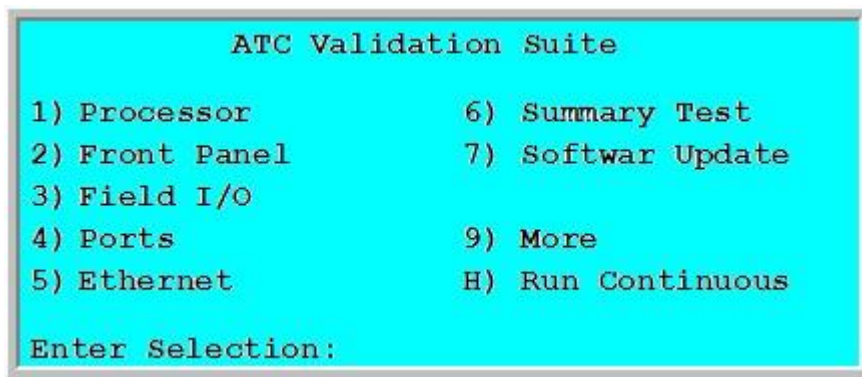
Enter the Code (7250):7250
WARNING WARNING WARNING WARNING WARNING
```

```
WARNING WARNING WARNING WARNING WARNING
The software will be completely removed.
This will take a few minutes.

Are you sure? NO
```

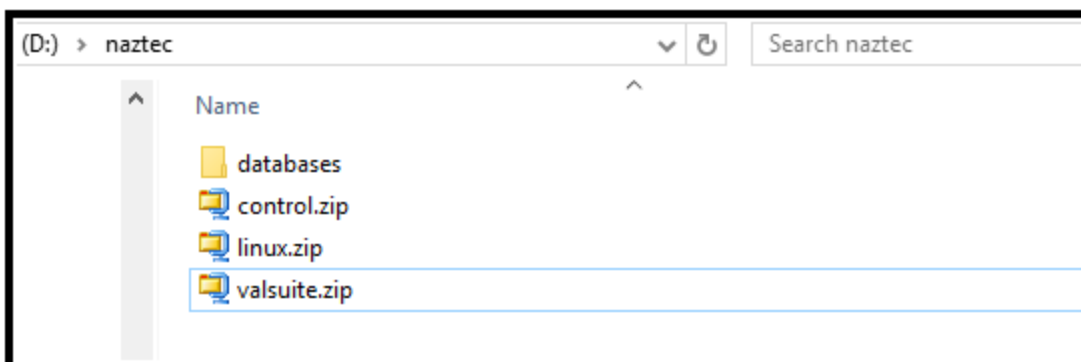
When asked “Are you sure?” Toggle to “YES” and hit the Enter key.

Wait approximately 1 minute once the software is removed, the screen will display the Linux overview screen and then display the ATC Validation Suite menu as shown below.



## USB Directory Structure

- 1) The Rufus Utility described in the first section of this TecNote explains how to format an USB drive.
- 2) USB devices vary by manufacturer. Valid USB 2.0 drives tested by Trafficware include **Kingston DT101 G2 8GB USB, Lexar 8GB, Lexar 16GB and Toshiba U2M 8GB USB.**
- 3) If the USB is not recognized please remove and reinsert so that is can be mounted.
- 4) Your USB Memory drive MUST have a directory named **naztec** on the root (note that the directory name is case sensitive). The validation suite is expecting a program
- 5) Copy the program file called **control.zip** (or **apogee.zip for versions older than V76\_12**) into this directory. Depending on your installation needs, the directory structure will is shown below:

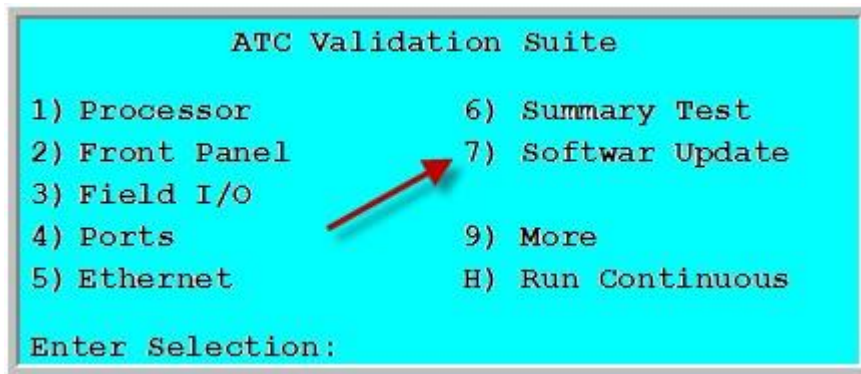


6) NOTE: As a rule of thumb you may have to update the Valsuite program on your controller, if you are updating any ATC that has software prior to V76\_12x. **Please refer to TecNote 1011 for Valsuite installation instructions.**

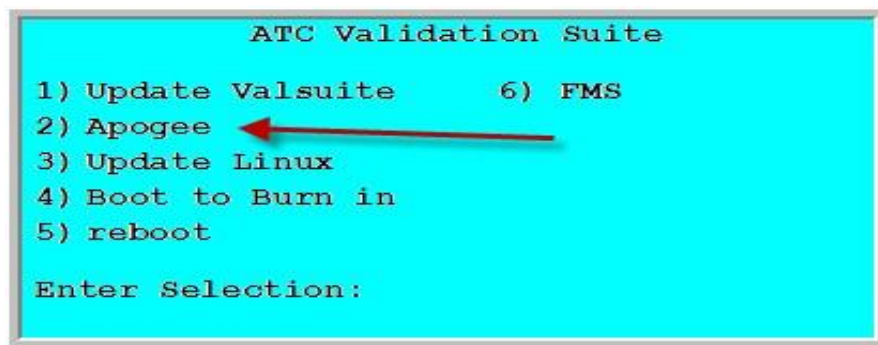
7) **Contact your Trafficware representative for installations using versions older than V76\_12 which use an older version of valsuite that look for a file named apogee.zip.**

## Updating the ATC Traffic Control software in Valsuite

1) From the ATC Validation Suite Menu choose **7) Softwar Update**.



2) If you are installing the file called Apogee.zip then you need to verify that the following screen is displayed. If it is displayed then choose **2)Apogee** to update the controller software in the ATC.

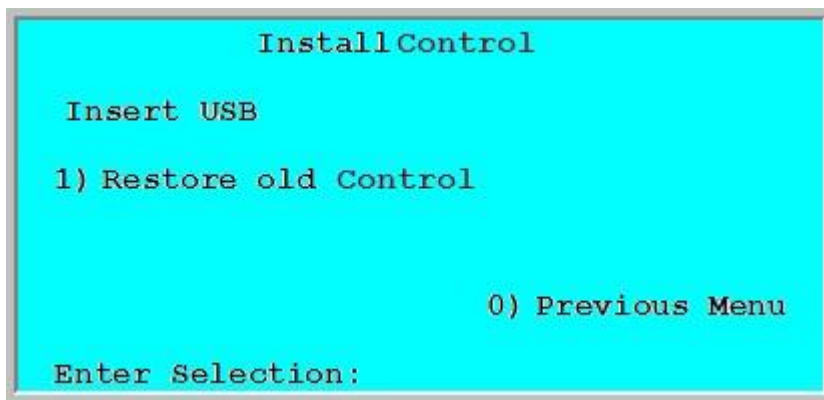
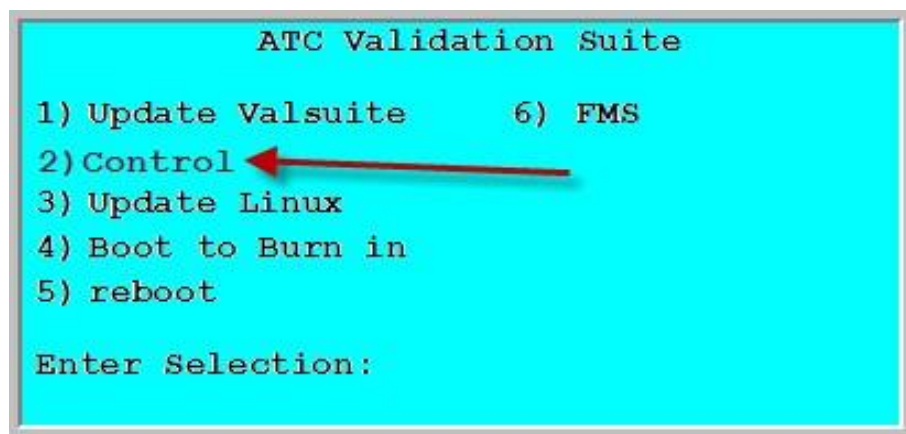


**Do Not Try to rename the file to match the Valsuite....** If you need assistance, please contact from Trafficware representative.

3) The following Menu is displayed.

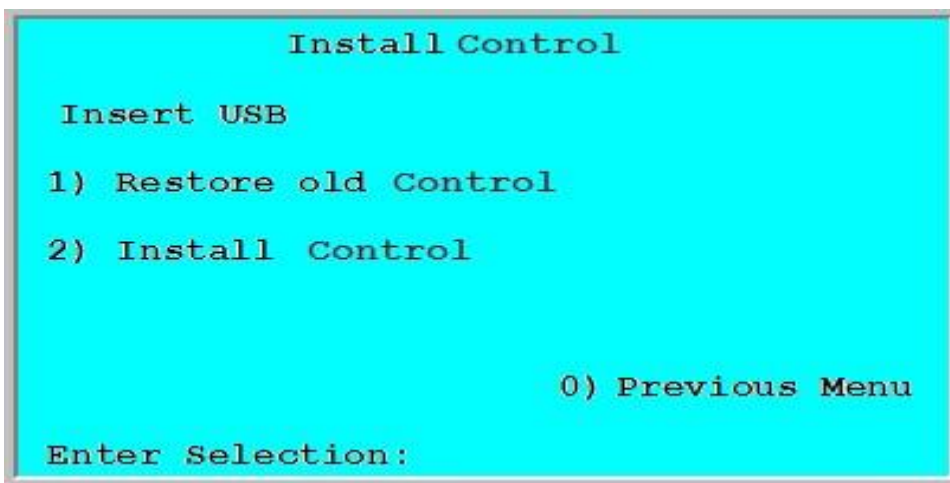
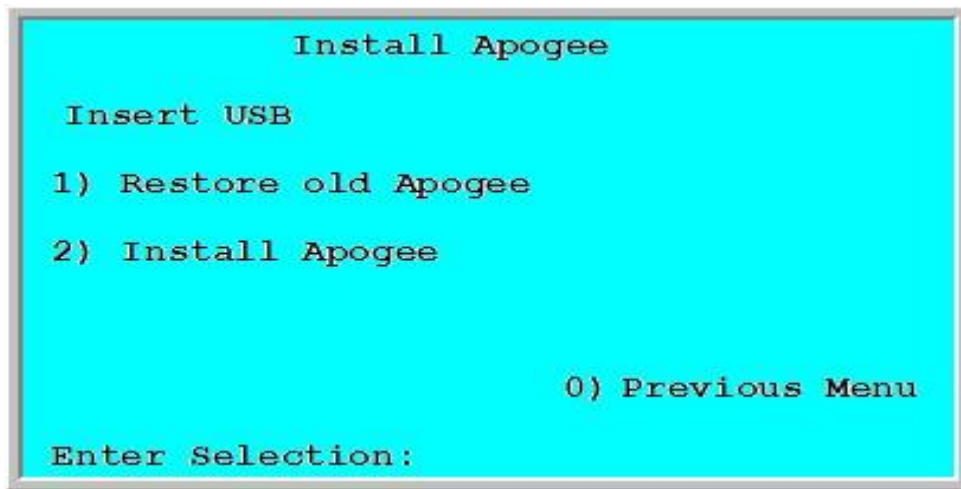


However if the screen displays **2) Control** then the file **Control.zip** must be used to update this controller as shown below. Please update your valsuite as per TecNote1011.





- 3) At this time you must install your USB Memory Device and the Menu should now display the following depending on the version of valsuite that you are using:



- 4) Enter selection number 2. You should notice that the "ACTIVE" LED on the front Panel should blink a couple of times and then the ATC controller will reboot after installing the new version of Apogee.
- 5) Once completed you should see the Overview screen followed by the software description screen as shown below.

Controller	Monitor	Cabinet	System
OFF	OK	OK	OFFLIN

```
Naztec Int Ctrl 74:46:a0:92:6c:d4 #  
Version: 76.15G Build 5931 --->Linux  
  
(c) Naztec, Inc. 07/18/17 16:31:41
```

**WARNING WARNING WARNING WARNING WARNING**

**The user must wait a minimum of 60 seconds prior to powering off the ATC Unit after updating the software!**

**WARNING WARNING WARNING WARNING WARNING**

## Summary

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By following this TecNote, you can install the Linux Builds your various ATC controllers.