

V-MUX Downloader
version 6.2.3 -- July 2012

V-MUX Downloader (v6.2.3) File types -- Operating System files

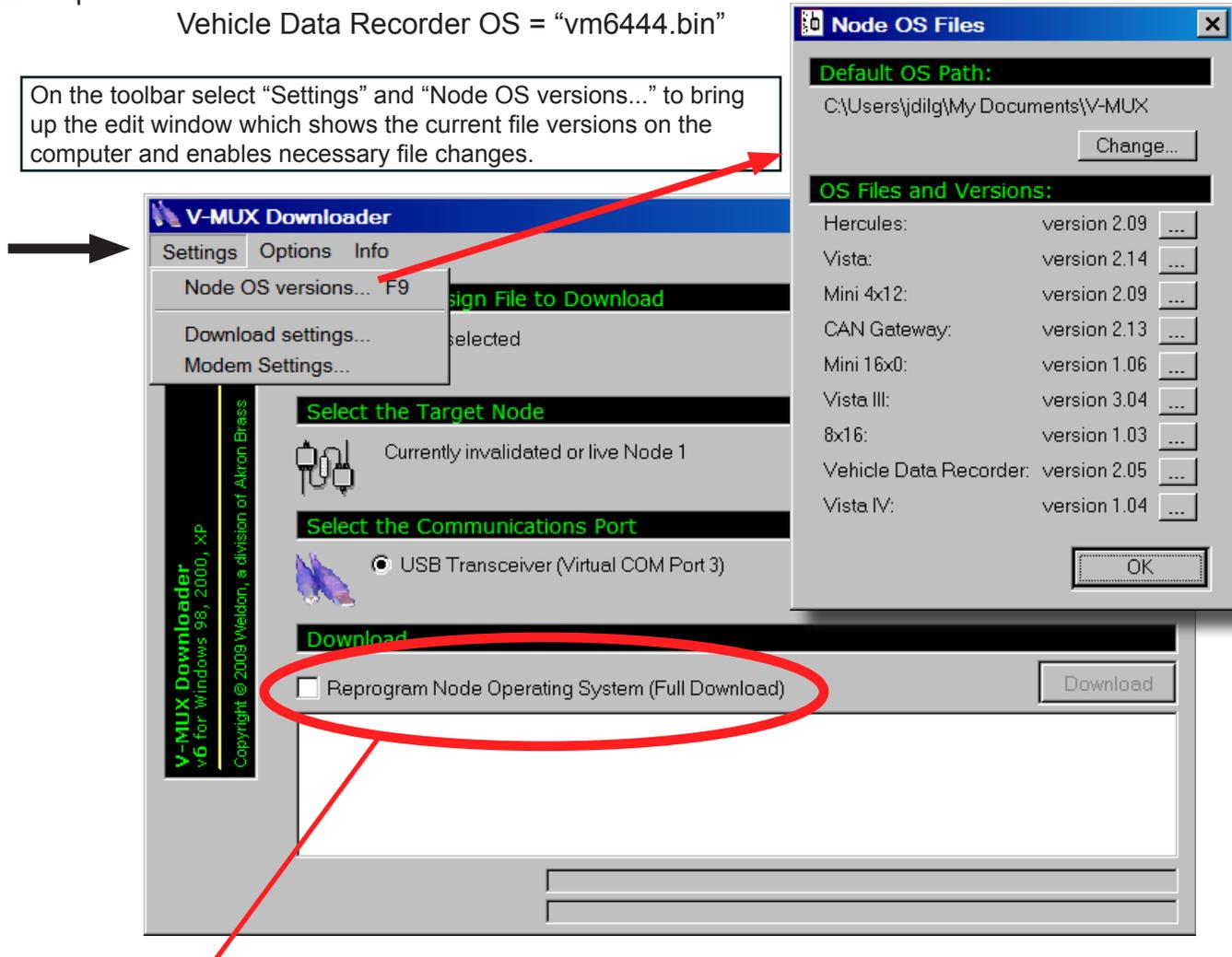
OPERATING SYSTEM FILES (“OS Files”):

Operating System files are specific to each type of V-MUX module. By default they are located in the path “My Documents\V-MUX” although they can be moved with the “Change...” button and the individual file select buttons as shown in the pop-up edit window below.

V-MUX OS files are identifiable by the fact that each of them begins with a “vm” at the start of the filename.

Examples: Hercules OS = “vmii.bin”
Vehicle Data Recorder OS = “vm6444.bin”

On the toolbar select “Settings” and “Node OS versions...” to bring up the edit window which shows the current file versions on the computer and enables necessary file changes.



The “Reprogram Node Operating System (Full Download)” check box:

It is only necessary to check this box if the existing OS file on the node needs to be updated to a newer version. A Weldon or OEM V-MUX designer will determine if an OS update is required. In the case of an un-programmed V-MUX node, the Downloader program will automatically transfer the OS file into the node memory whether or not the box is selected.

V-MUX Downloader (v6.2.3) File types -- Application files

APPLICATION FILES (also called “binary” or “BIN” files):

V-MUX Application files are specific to the vehicle and installed node location they will be used at. Each Application file is given an identifier number in the range of 1-32.

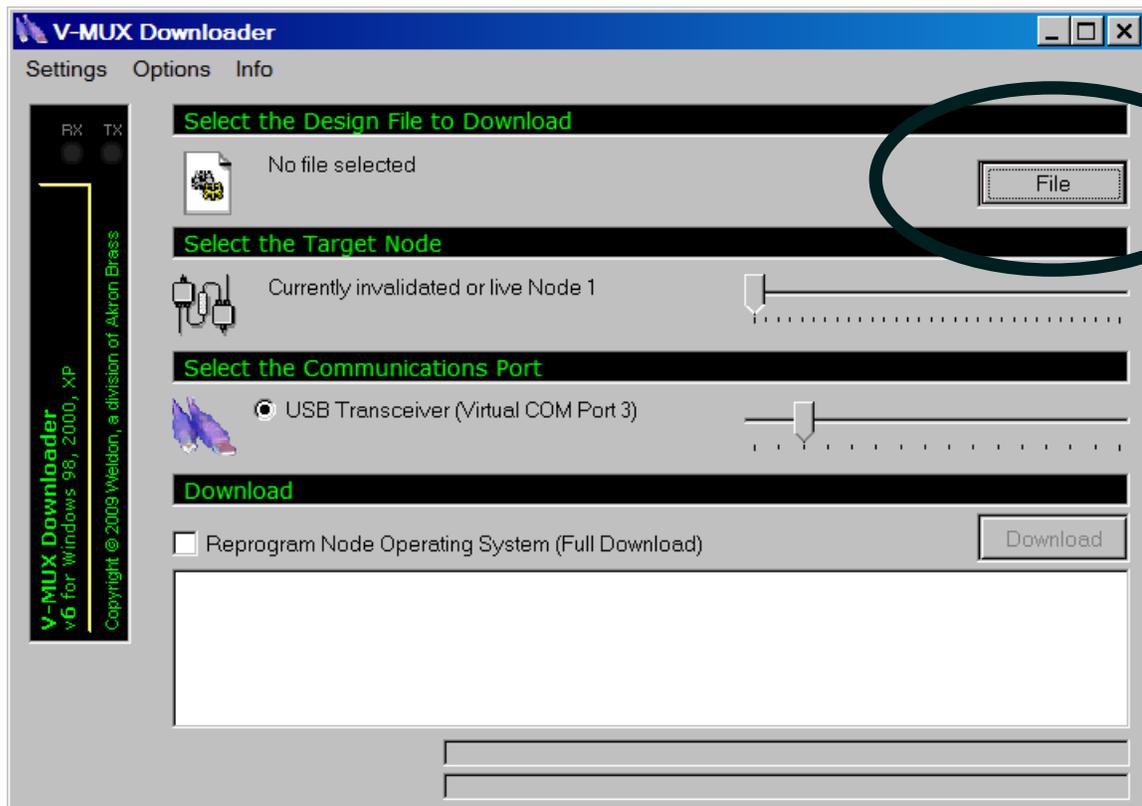
The Application file must be named as shown here: **name_Node #.bin**.

In particular, there must be an underscore character that precedes the word Node (“_Node”) and there must be a space character that separates _Node from the number (“_Node 4”). Also, the ‘N’ in “_Node” must be uppercase.

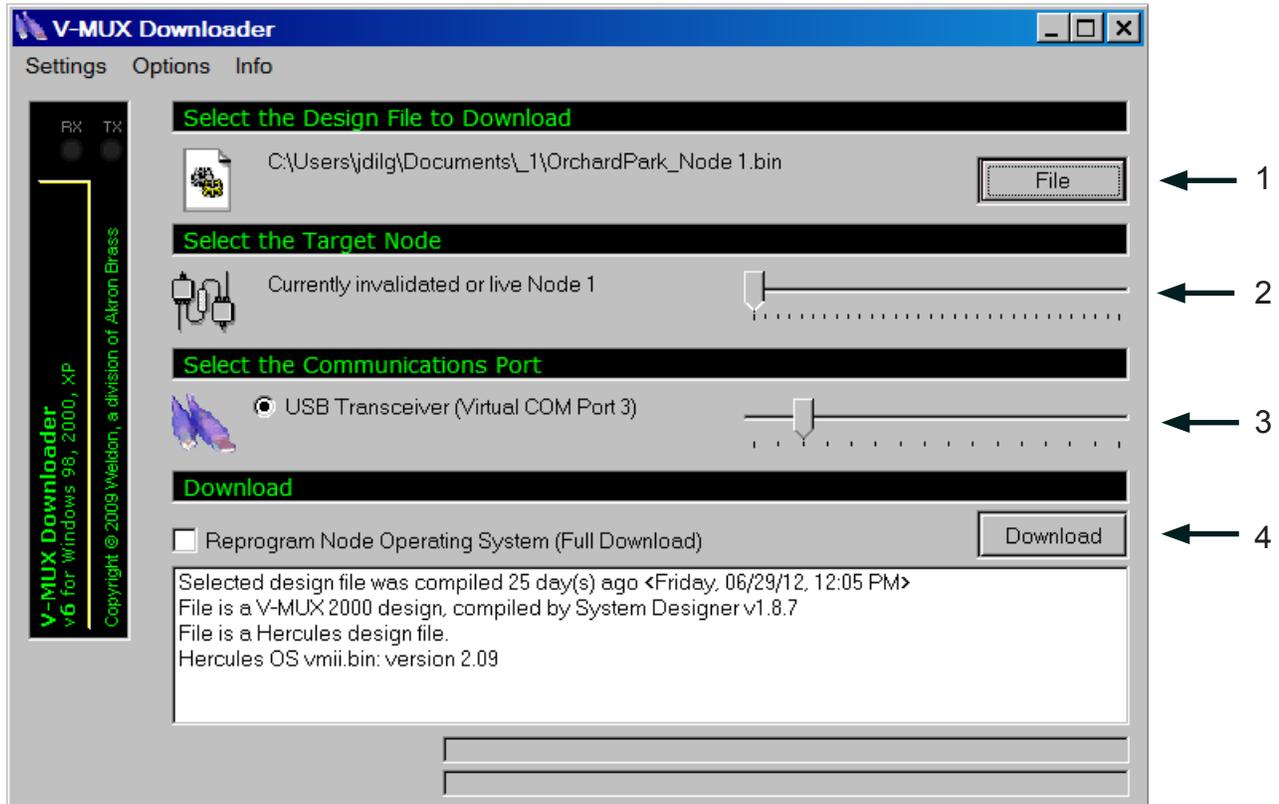
Example: **33456-Columbus_Node 4.bin** is a valid filename.

If the filename does not follow the naming convention as shown above it will not be listed in the file select window.

Application files may be stored anywhere on a computer or removable memory. Select the desired file by clicking on the Downloader “File” button to bring up the file select window.



Downloading procedure for a V-MUX node in a live network (as in a vehicle)



PRELIMINARY:

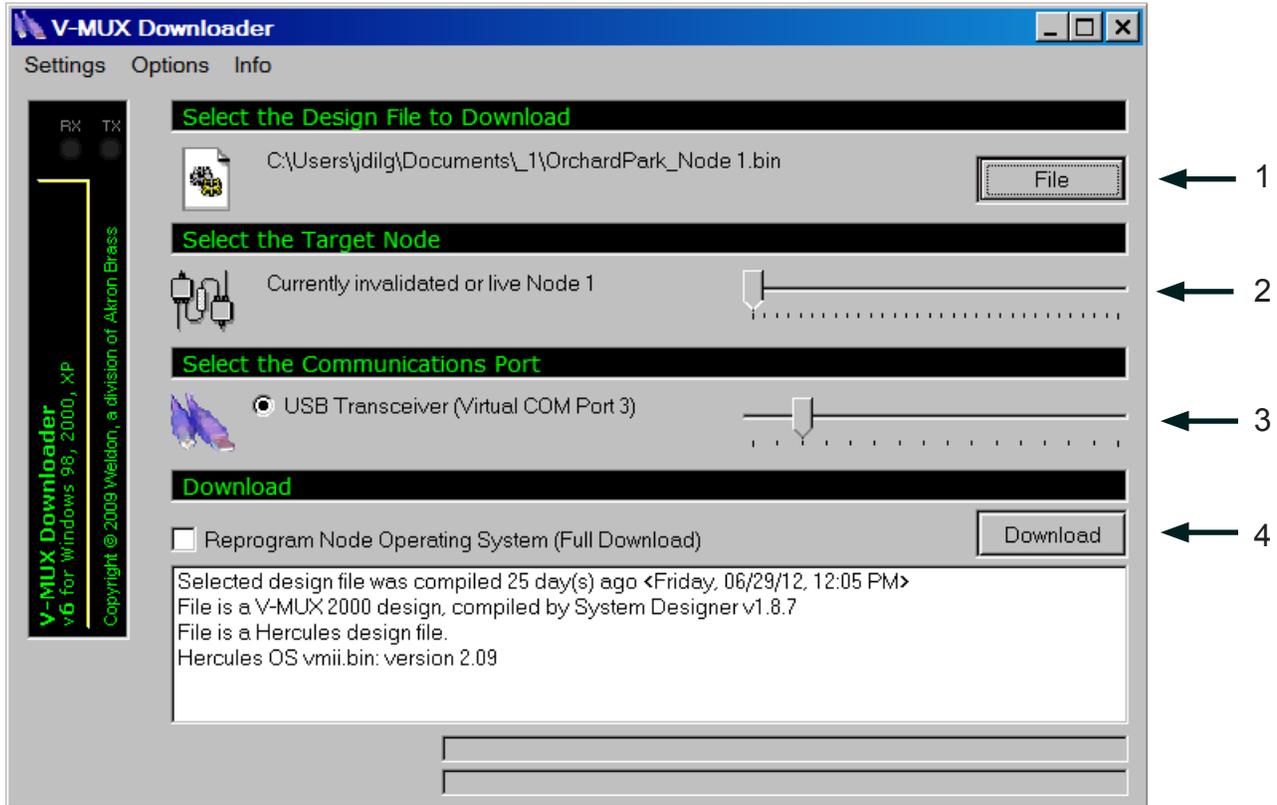
V-MUX nodes in a live vehicle network are already programmed and in this case the usual purpose of the file Download is to update an existing program.

- Connect the transceiver box between the computer USB port and the vehicle's V-MUX port.
- Verify that the V-MUX nodes in the vehicle are powered.

DOWNLOAD:

1. File: Select the vehicle Application file. This will have the V-MUX node location number as part of the filename.
2. Target Node: Verify that the Target Node number matches the node number in the filename.
3. Communications Port: Verify that the computer has assigned a "USB Transceiver (Virtual COM Port [1-16])" to the transceiver module. The module must be plugged in for the computer to recognize it and assign a port number.
4. Download: Select the "Download" button to begin the file transfer to the node.
5. The lower message area and the blue progress bars at the bottom will indicate the status of the transfer.
6. Always recycle power OFF/ON at the end of every Download.

Downloading procedure for a single V-MUX node (out of network, as on a bench)



PRELIMINARY:

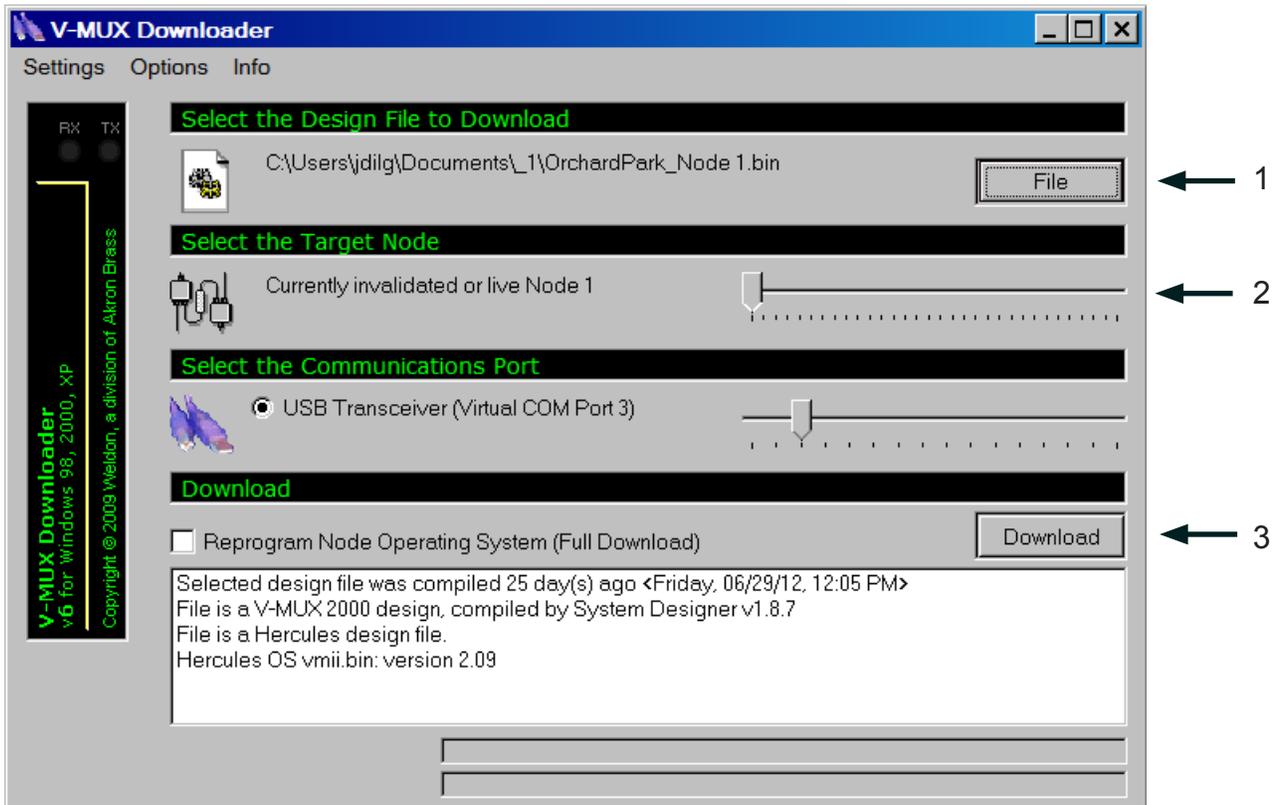
V-MUX nodes to be programmed out of network are typically done in a production environment. The nodes may have blank memory and so the Download will first transfer an Operating System into the node memory and then transfer the Application file. This is called a “two-pass” download and the blue progress bars at the bottom of the window will indicate the status of the transfer.

- Connect a one-to-one adapter with the node. Adapters are usually specific to a node type.
- Connect the transceiver box between the computer USB port and the node one-to-one adapter.
- Verify that the V-MUX node is powered from a source such as a battery or table-top supply.

DOWNLOAD:

1. File: Select the vehicle Application file. This will have the V-MUX node location number as part of the filename.
2. Target Node: Verify that the Target Node number matches the node number in the filename.
3. Communications Port: Verify that the computer has assigned a USB port (1-16) to the USB transceiver module. The module must be plugged in for the computer to recognize it and assign a port number.
4. Download: Select the “Download” button to begin the file transfer to the node.
5. The lower message area and the blue progress bars at the bottom will indicate the status of the transfer.
6. Always recycle power OFF/ON at the end of every Download.

Special Downloading procedure -- Changing a live node number



PRELIMINARY:

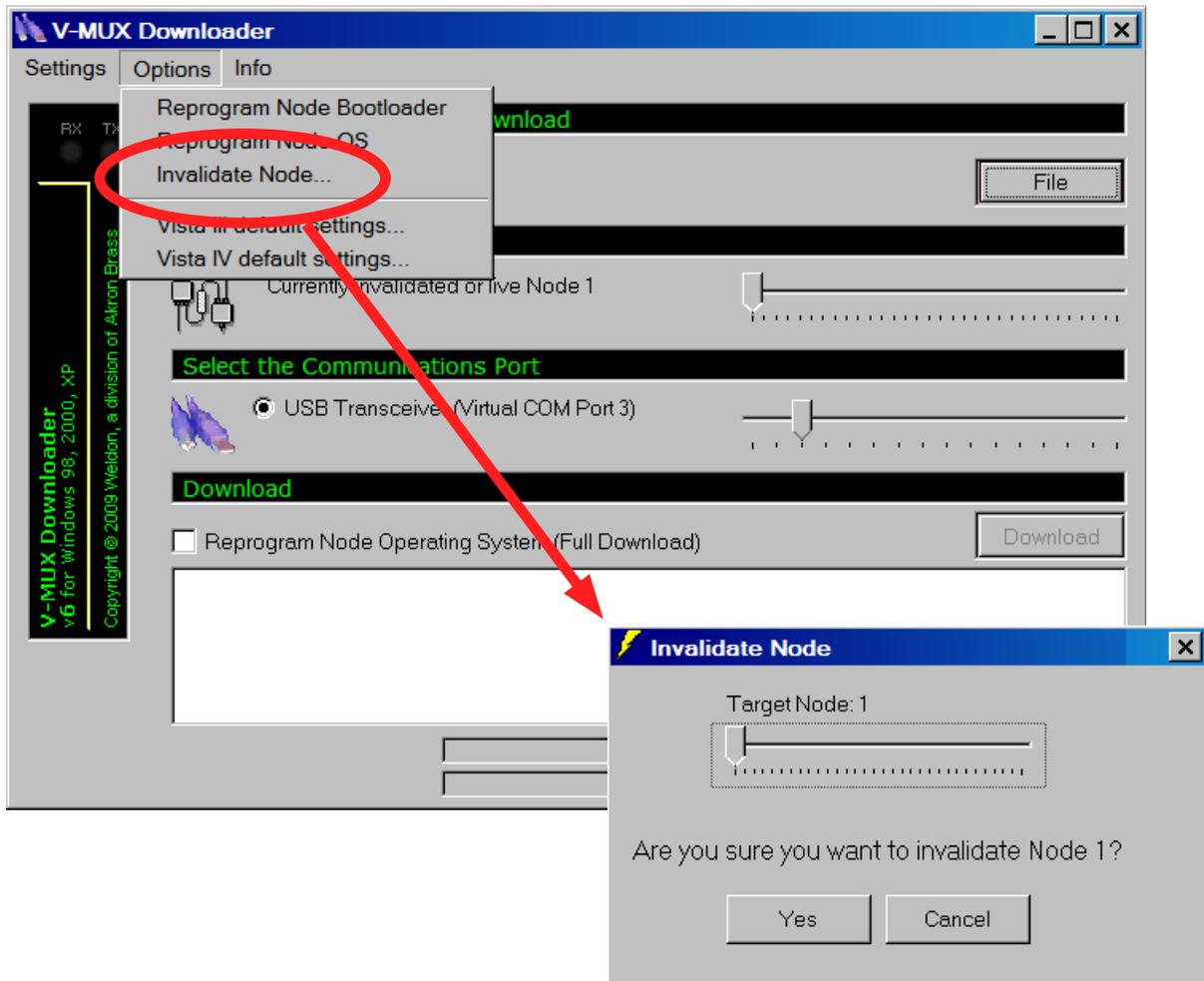
Sometimes a spare V-MUX node is needed as a quick replacement for another node at a different location but of the same node type. This happens a lot with multi-vehicle users -- so the task is to re-program the live node with a different program and node number. It is possible to first wipe the node memory and Download to the newly blank node, but it is a bit faster if the live node is "retargeted"

- Connect a one-to-one adapter with the node and also to the computer USB port as before.
- Verify that the V-MUX node is powered from a source such as a battery or table-top supply.
- Verify the live node number before the Download starts. The live node number in this case will be different from the filename number. Use V-MUX Diagnostics if necessary to determine the live node number.

DOWNLOAD:

1. File: Select the vehicle Application file. The node number in the filename matches the Target Node number. Both of these numbers are different from the live node number.
2. Target Node: Move the Target Node slide control so that target number now matches the live node number. This is now "retargeted".
3. Download: Select the "Download" button to begin the file transfer to the node.
4. Always recycle power OFF/ON at the end of every Download.

Options -- Invalidating a live node (How to wipe a program in node memory)



PRELIMINARY:

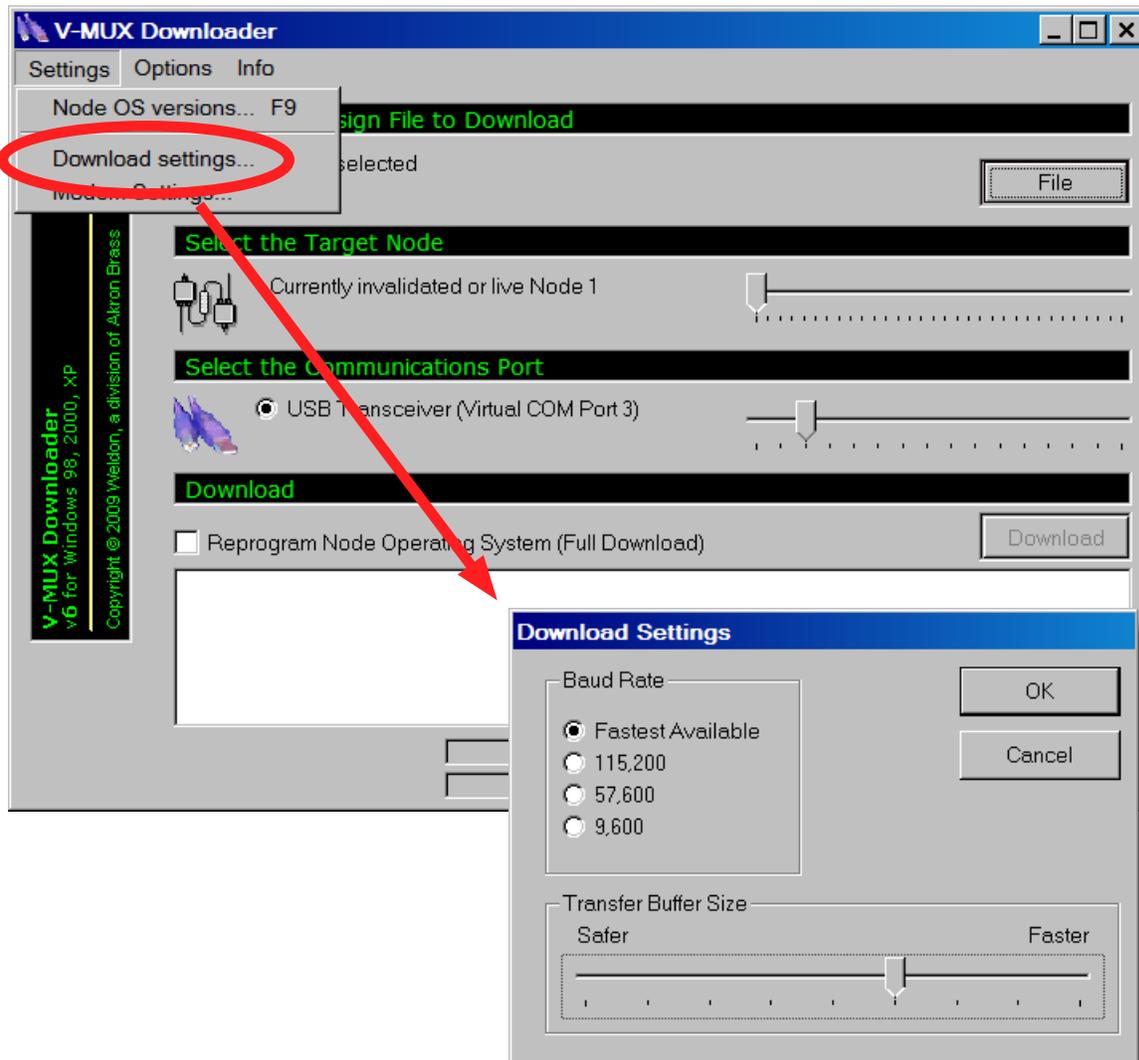
It is possible to first wipe a program in live node memory and then Download to the newly blank node. Only do this for individual nodes, not when the nodes are installed as part of a live network.

- Connect a one-to-one adapter with the node and also to the computer USB port as before.
- Verify that the V-MUX node is powered from a source such as a battery or table-top supply.
- Verify the live node number before the Invalidation. Use V-MUX Diagnostics if necessary to determine the live node number.

INVALIDATE NODE:

1. Options: Select the [Options] menu and then [Invalidate Node...]
2. Target Node: In the pop-up window move the Target Node slide control so that target number now matches the live node number.
3. Invalidate: Select the "Yes" button to wipe the program memory of the node. This is an irreversible step, so there is a "Cancel" button which offers one last chance to exit the window.

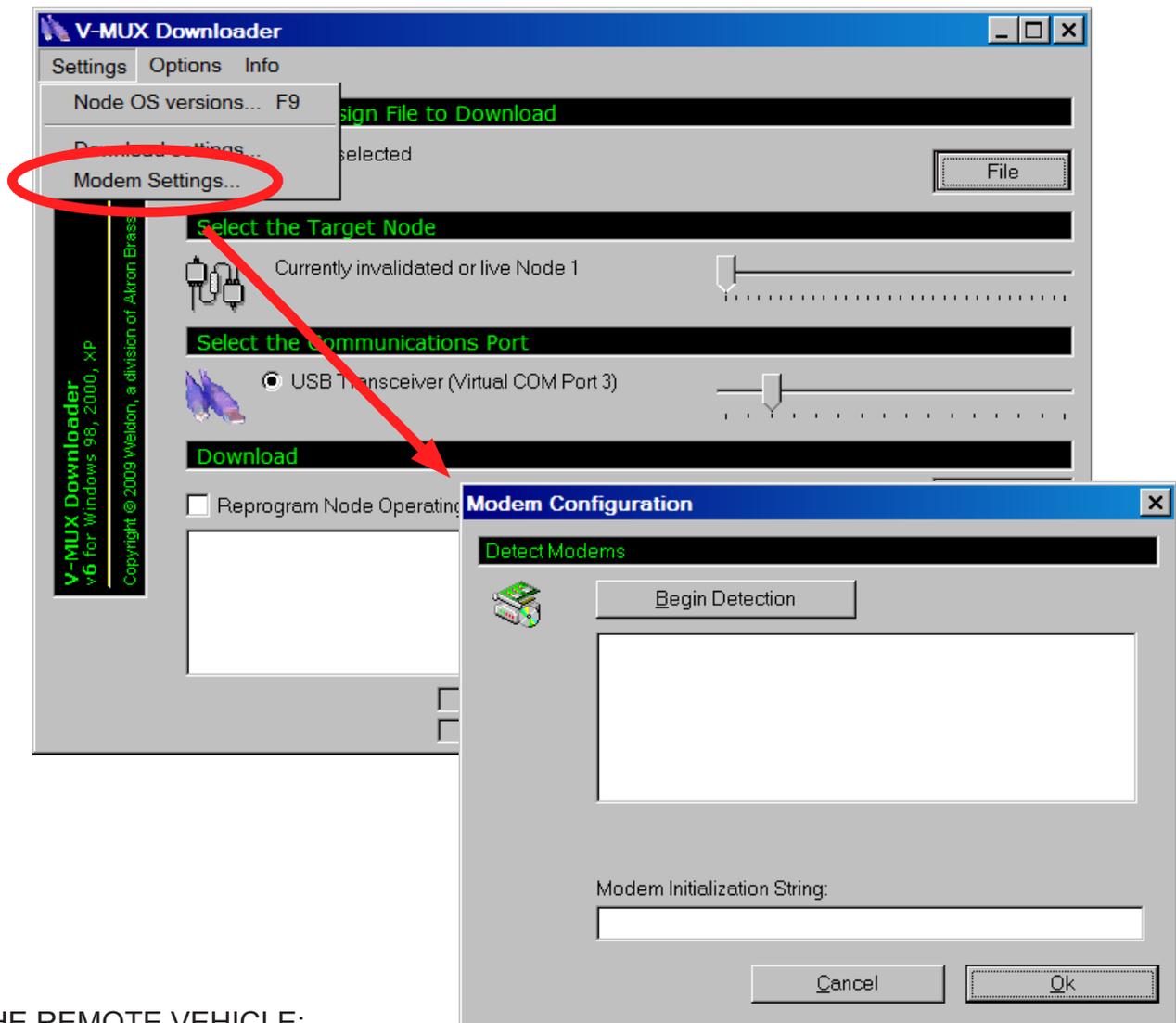
Settings -- Download settings...



Baud Rate: Select "Fastest Available". The Downloader program will query the V-MUX node as to its supported transfer rate.

Transfer Buffer Size: This slide control sets the relative trade-off of stable but slow data transfer (Safer) vs. speed (Faster). Usually when downloading to a live node in network where the vehicle is in a shop environment the slide control should be placed around the middle of the range. When downloading with a short connection to a single node on a table-top, it is probably Ok to set it toward the Faster end of the range.

Settings -- Modem settings...



AT THE REMOTE VEHICLE:

A remote V-MUX system may be dialed up for Downloader and Diagnostics sessions by use of the Weldon #6120 V-MUX modem module.

- Connect Weldon adapter assembly 0L40-2677-00 to the V-MUX network (see next page).
- Connect the Weldon 6120 modem to the harness assembly.
- Using a phone extension line plug the assembly into an analog telephone receptacle.
- Verify the phone number of assigned to the receptacle.

AT THE LOCAL COMPUTER:

1. Plug an external modem into the computer USB port. Internal modems are not recommended due to performance issues. (Weldon recommended: US Robotics 56K USB Controller v.92 fax modem)
2. Plug the external modem into an analog telephone receptacle.
3. From Downloader "Modem Settings..." select the "Begin Detection" button
4. Select the detected external modem and click on the "Ok" button.
5. Enter the phone number of the remote V-MUX vehicle. A "Modem Initialization String" is usually not necessary.

Type 6120 Modem transceiver for Diagnostics and Downloader (pinouts and adapter harness)



Pin	Name	Description
1-5	Not Used	---
6	Comm B	from V-MUX twisted pair B
7	Comm A	from V-MUX twisted pair A
8	Modem Tip	from RJ-11 phone jack
9	Modem Ring	from RJ-11 phone jack
10	System Power	+VBatt (12/24)
11	Not Used	---
12	System Ground	use Battery Ground

