Spirit Config Tool 4.1.2

Help index

Introduction

The Spirit Config Tool enables the user to discover and configure G.hn local and remote nodes. It uses HomeGrid's LCMP protocol or Maxlinear's SCP to communicate with nodes. Both protocols send and receive special layer 2 frames. G.hn LCMP is a new standard G.hn configuration protocol and it is supported from Spirit 6.6 firmware. SCP is exclusive to Maxlinear G.hn nodes and it is included from Spirit 6.2 firmware.

This program is written in Java. It supports all recent Java versions (from Java 1.6 to the latest Java 1.8). It is recommended to use Java 1.7 or newer. In order to communicate with the G.hn nodes, the program includes a small C library that works in Windows XP, 7, 8, 8.1 and 10, Mac OSs X and most Linux operating systems.

How to install

Windows (XP, 7, 8, 8.1 and 10)

- Download and install WinPcap 4.1.3 for Windows: www.winpcap.org/install/default.htm. The installation requires administrative rights. During installation, do not untick the option "Automaticall start the Winpcap Driver at boot time". No need to reboot Windows after installation.
  - Download and install Java JRE or JDK, either 32 or 64 bits. Java 1.7 or 1.8 are recommended: www.java.com. If you are not sure if Java is installed or not, just double-click in the SpiritConfigTool.jar file and see if the Spirit Config Tool starts.
  - Double-click in the SpiritConfigTool.jar file. The first window to show is the loading screen.

Mac OSX (Yosemite and El Capitan)

- Download and install Java JRE or JDK, either 32 or 64 bits. Java 1.7 or 1.8 are recommended: www.java.com. By default, OSX includes and old Java version that is not valid for the Spirit Config Tool.
- Now OSX should be able to run SpiritConfigTool.jar just with a double-click.
- If OSX does not allow to run the application, go to finder and right-click in SpiritConfigTool.jar, then click Open.

Ubuntu (14.04 or newer)

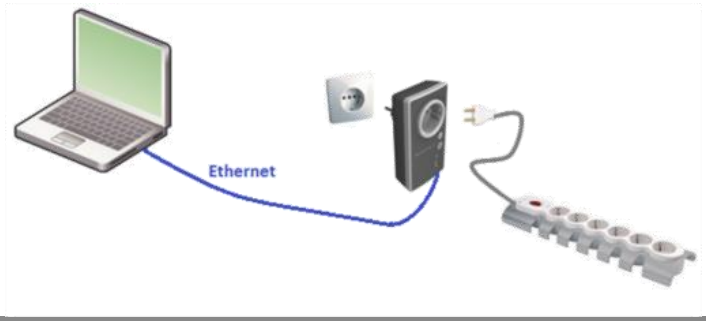
- Install the openjdk package: sudo apt-get install openjdk-7-jre. This is a GPL version of Java that works fine with the Spirit Config Tool.

  Install gksu package: sudo apt-get install gksu. This is optional. The other option is to run the SpiritConfigTool.jar as sudo.
- Now Ubunutu should be able to run SpiritConfigTool.jar just with a double-click or right-click/Open with Java.
- Note: The Spirit Config Tool includes binaries compiled for Ubuntu 14.04, 32 and 64-bit. They will work with compatible Linux distributions.

Connect the computer to the the G.hn network

Before starting the Spirit Config Tool, the computer must be connected to a Maxlinear G.hn node through an Ethernet port. The connection can be direct or with a switch. The Spirit Config Tool cannot configure nodes connected to the computer through a Wi-Fi connection.

After connecting the computer to the G.hn node, check that the Ethernet LED is on (probably blinking).



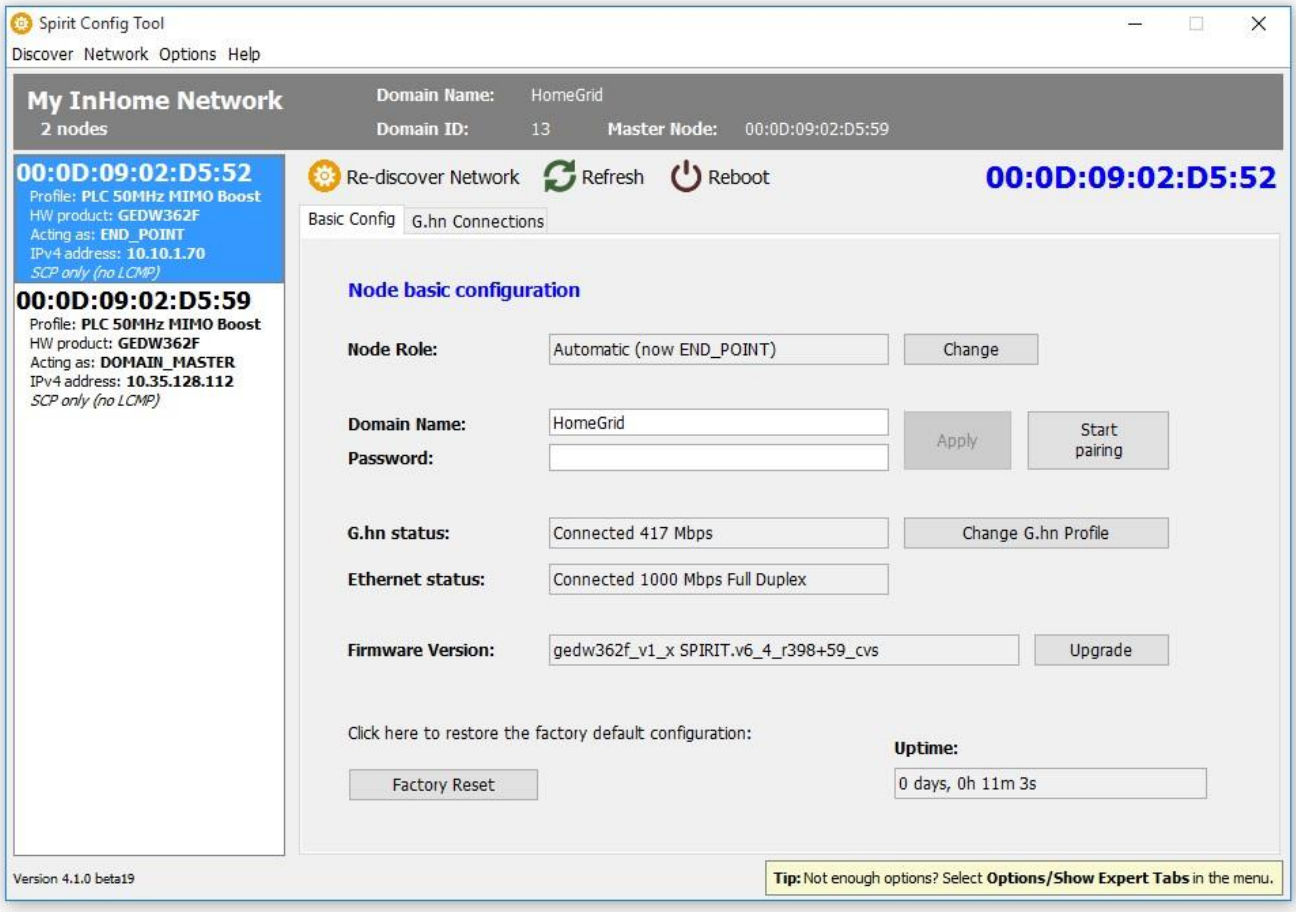
Discover the G.hn network

When the Spirit Config Tool is started, it automatically detects local nodes. After it finishes detection, it will show a list of nodes in the main application window. The first node in the list is the local node. The rest of the nodes are remote nodes. Remote nodes are not directly connected to the computer. They are nodes connected to the local node through a G.hn connection. The configuration of the remote nodes is done using the local node as proxy.

If the local node is not detected, first check the setup. The G.hn node should have a LED indicating that the Ethernet is correctly connected. If the problem is not the cables, it is probably related to the capture driver. In Windows, the Spirit Config Tool uses WinPcap. Check that it is correctly installed. Some Windows computers do not work with WinPcap due to driver incompatibility or some other program running. First, try to reboot the computer or uninstall and reinstall WinPcap driver. If that does not work, the only solution is to use a different computer.

At any moment, use the button Re-discover Network to detect all the nodes again. That will detect any change in the network.

Use the Refresh button to get the latest information from the selected node. This action does not detect changes in the number of nodes connected.



Basic G.hn configuration

After the initial discovery, the tool shows the Basic Config tab of the local node. Click in another node in the list to select and configure a different node. Use this tab to do the basic G.hn configuration of the selected node:

- Node Role , click Change to force the selected node to be Domain Master (DOMAIN_MASTER) or End Point (END_POINT). Automatic mode (NONE) is the recommended configuration for InHome networks.
- Domain Name , modify the Domain Name and click Apply to change the Domain Name of the selected node.
- Password , modify the Password and click Apply to change the Encryption Password of the selected node. Remember that two nodes need to have the same Domain Name and Password to be able to work together.
- Start Pairing to start the pairing mechanism. This button has the same effect as pressing the physical Pairing button in the adapter.

- Profile , click Change the G.hn Profile to select a different G.hn profile for the selected node.
- Reboot , reboots the selected node.
- Factory Reset , restores the Factory Defaults.

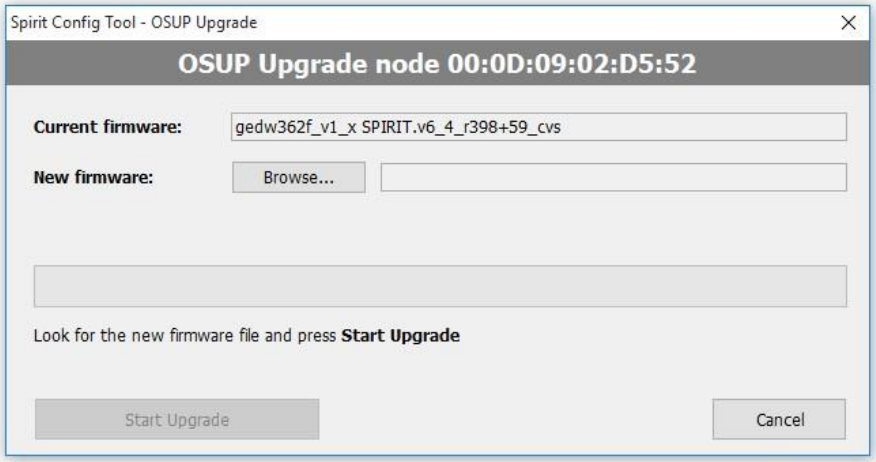
Some parameters can be changed in all the nodes of the network at the same time. To do that, use the Network menu options.

How to upgrade the firmware

Select the node that you want to upgrade. Go to the Basic Config tab and click Upgrade tab. Browse your computer for the firmware file and click Start Upgrade .

This upgrade dialog only accepts OSUP files. The node will only accept OSUP files that are intended for its product type. For example, if the hardware product is a GEWD362F, the node will reject to upgrade with an OSUP file compiled for the hardware product GEDW720.

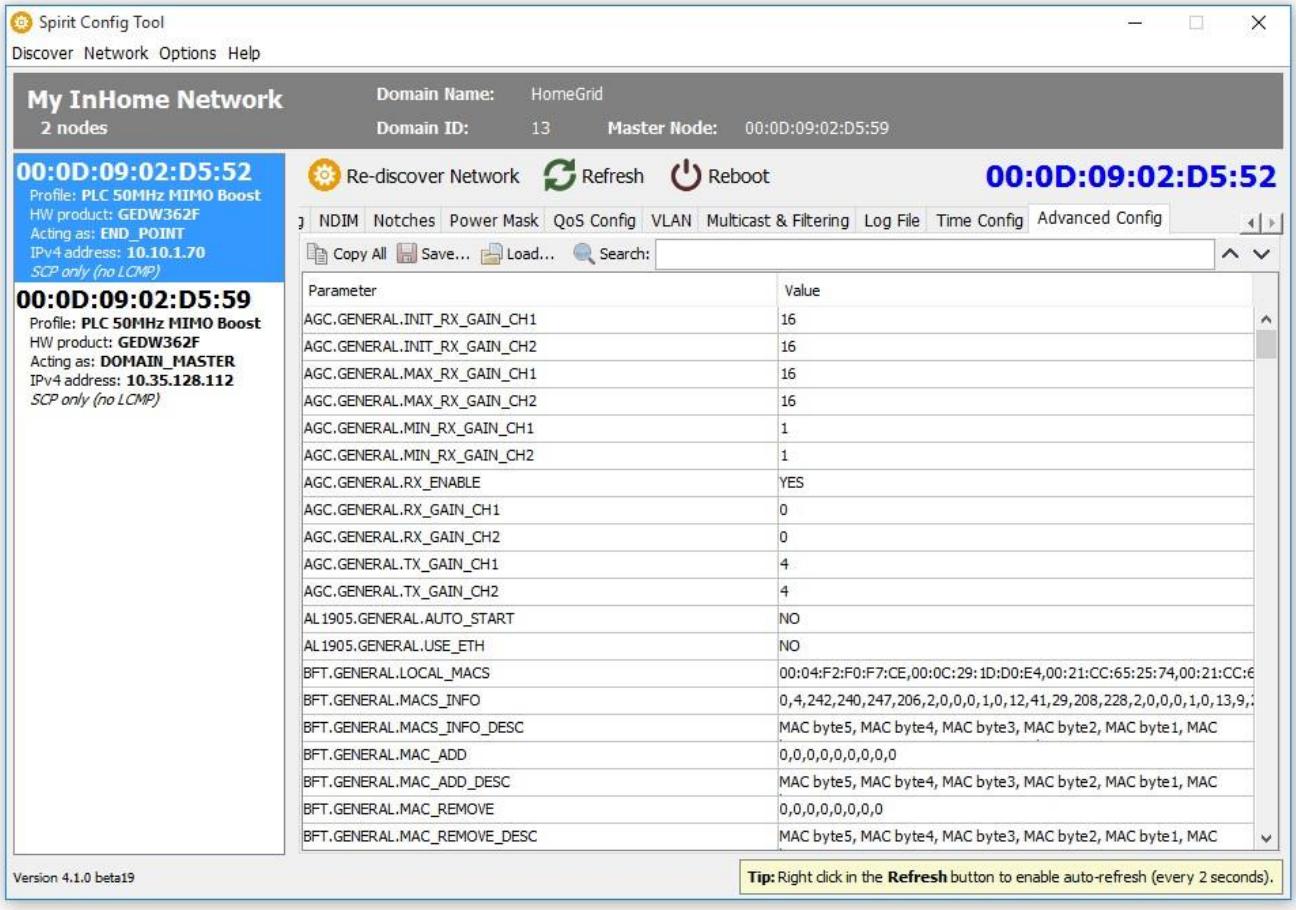
Do not try to use this dialog to do a full flash upgrade.



How to get all the configuration

Go to the Advanced Config tab (the last tab) and click the Refresh button to get the latest information. Press Copy All to copy all the table to the clipboard or press Save... to save all the table to a text file.

The Advanced table is a powerful tool that can be used to modify any parameter. Just double-click the parameter to change.

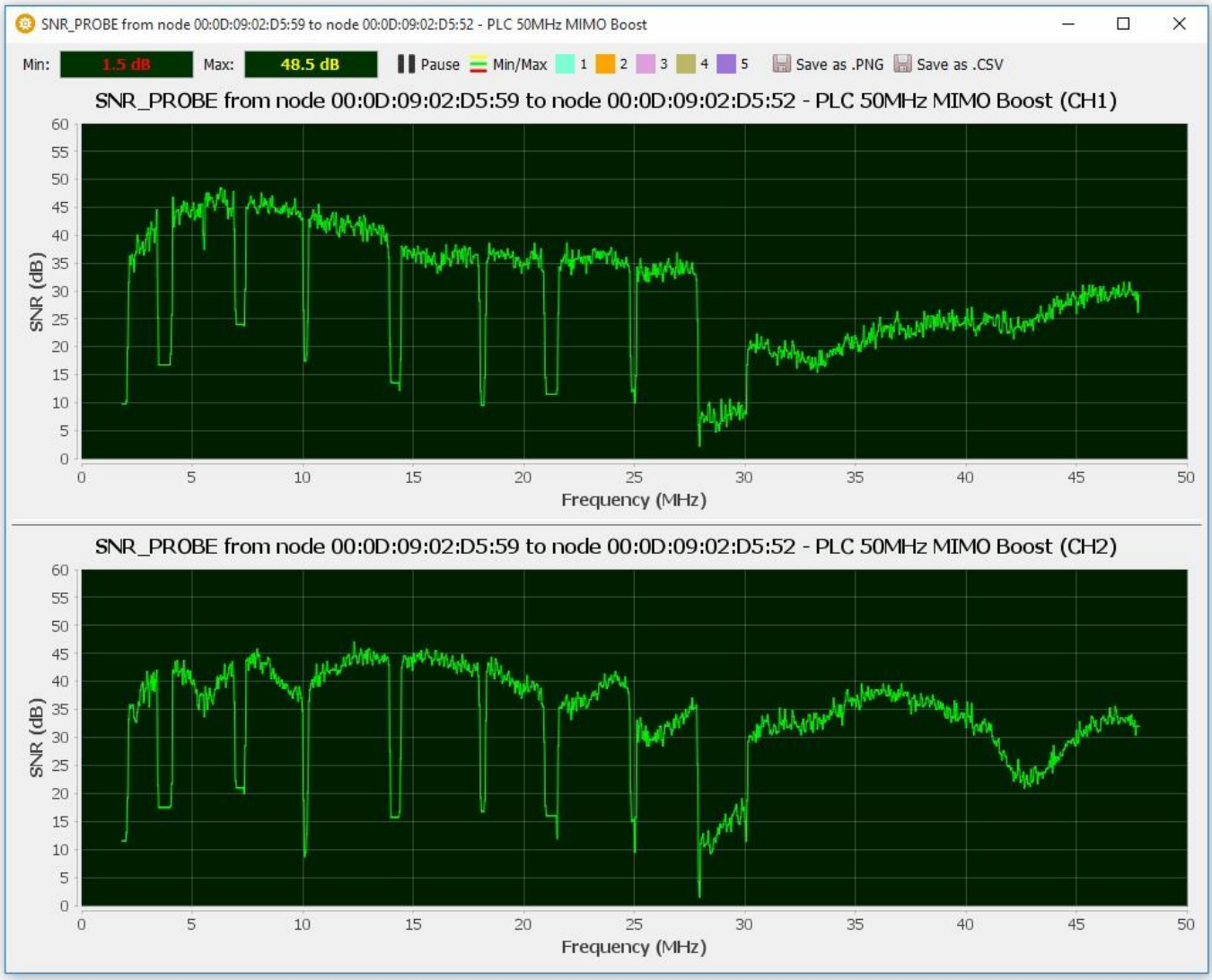


How to check the SNR and CFR

The SNR or CFR between two nodes can be checked in the SNR & CFR tab. First check that your computer IP and the IP of the G.hn nodes are in the same IP range. For example: if the IP address of the G.hn node is 10.10.1.69, the IP address of the computer running the Spirit Config Tool could be 10.10.1.100 with netmask 255.255.255.0.

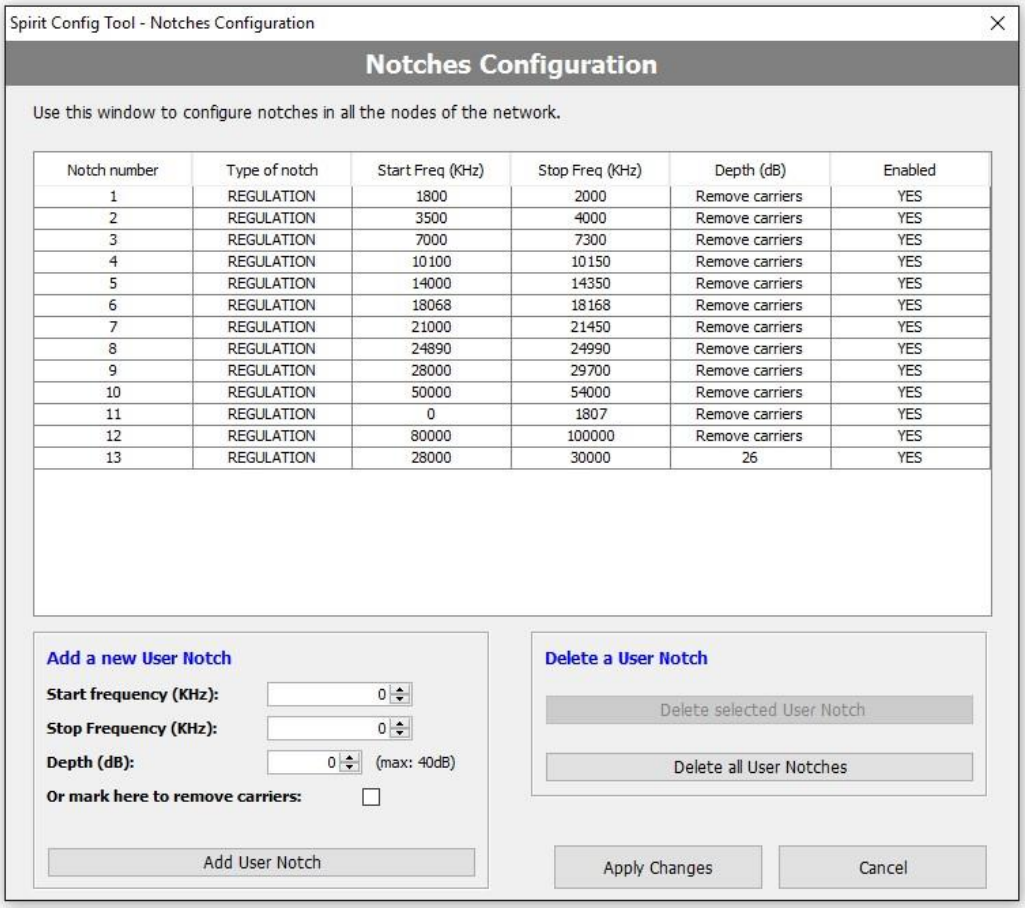
Note: The IP address of the G.hn nodes can be changed in the IPv4 Config tab. If your computer is using DHCP to get its IP address, activate DHCP in the G.hn nodes too.

Now, choose a node (node A) in the Spirit Config Tool and go to the SNR & CFR tab, choose a MAC address in the drop list (node B) and a type of measure. A new window will open. The new window will show the SNR or CFR from node B to node A. The node B (node selected in the drop list) is the signal transmitter and the node A is the receiver.



How to configure notches

Now, notches are configued in all the nodes of the network at the same time. To open the Notches Configuration window, go to the Network menu and select Configure Notches. That will show the current notches configuration in the network and options to add or delete notches.



Up to 10 user notches can be added to the list. The minimum frequency is 0 and the maximum is limited by the current profile. The maximum attenuation is 40dB but it is possible to select Remove carriers . That option will remove any G.hn signal in that frequency range.

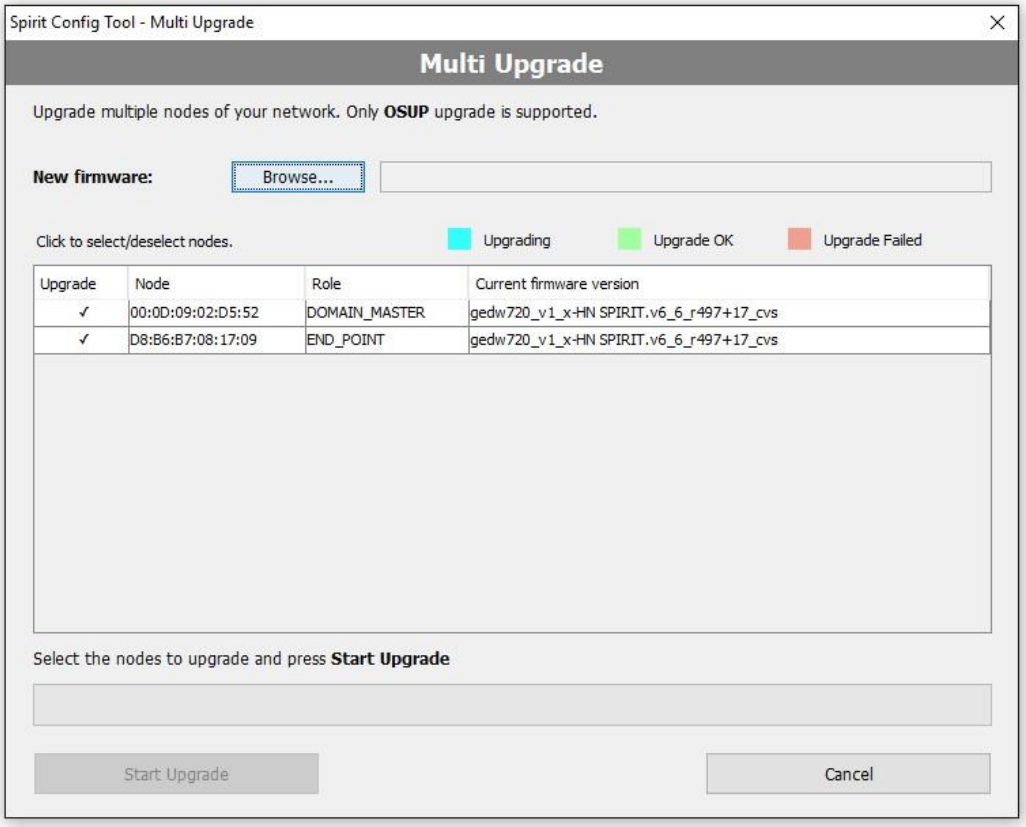
Select a user notch in the table and click Delete selected User Notch to delete that notch from the table.

Changes are not applied until the button Apply Changes is pressed. Click Cancel to close this window without applying the changes.

Note: Regulation Notches cannot be deleted or modified.

How to upgrade multiple nodes at the same times

Use this window to upgrade all the nodes of the network at the same time. To open the Multi Upgrade window, go to the Network menu and select Upgrade multiple nodes . That will show the Multi Upgrade window.



First, choose the upgrade file. Only OSUP files are supported.

Then, select the nodes to upgrade. Nodes can be selected individually clicking in the tick mark in the leftmost colum.

Finally, click Start Upgrade . The selected nodes will be upgraded. The window will indicate which nodes have been successfully upgraded. Once finished, click Reboot upgraded nodes to reboot all the upgraded nodes and close this window.