

Title: Firmware and FPGA upgrade procedure for DS Vision System

No: DSV2-1

Date: Monday, 19 November, 2007

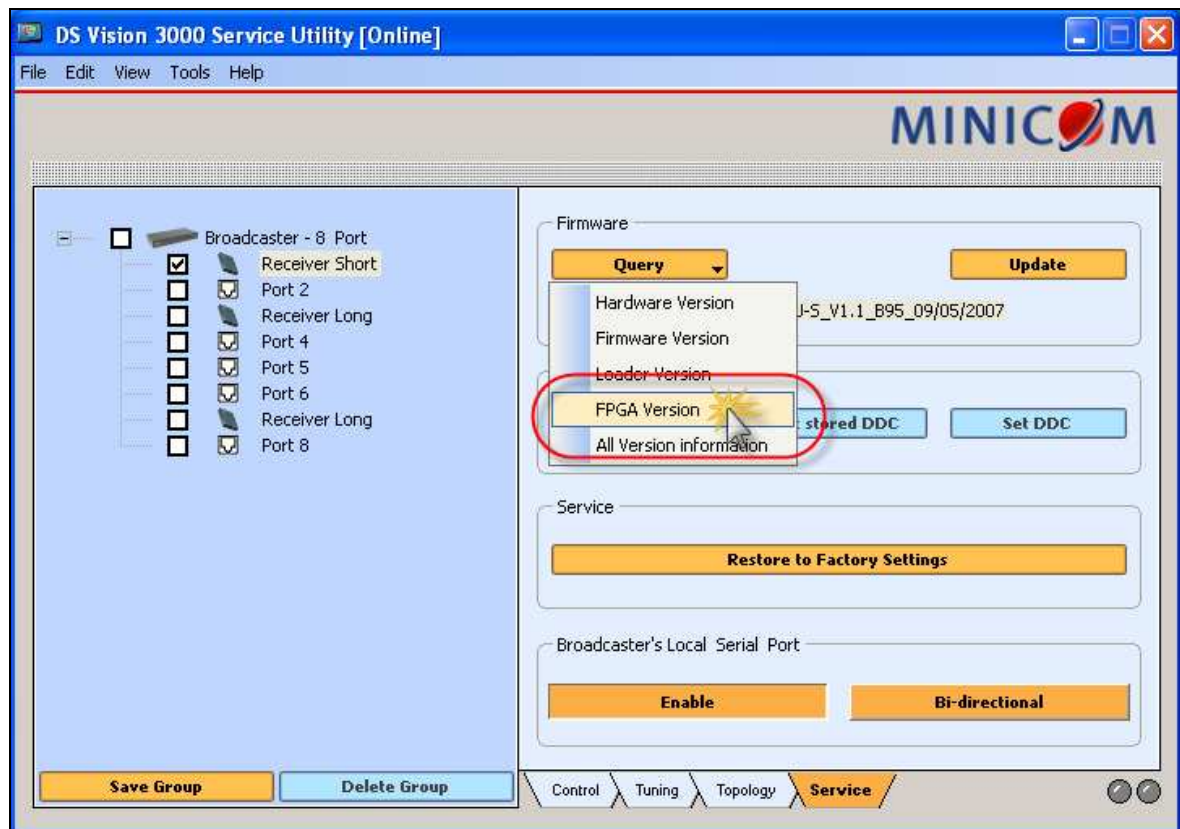
SUMMARY:

New improved version of firmware and FPGA is available for all DS Vision components. In the new version of FPGA we improved internal communication between the devices and improved audio transmission quality. All new DS Vision products, like Line Splitter, Receiver Dual Cascade Long and others, will have updated FPGA preinstalled during the manufacturing process. This document explains how to upgrade the DS Vision units to the latest firmware and FPGA versions.

MORE INFORMATION:

New improved FPGA has version number V01.00. This version of FPGA is not compatible with older versions of FPGA which installed in the DS Vision units manufactured before November 2007. To verify the current version of FPGA installed in the unit, install and run the latest version of DS Vision Service Utility on the computer connected to Broadcaster or Transmitter unit. The latest version of DS Vision Service Utility is available from the following link: http://www.minicom.com/support/dsvision/DSVision_Service_UTILITY.exe.

On the Service Tab select the DS Vision component in the system tree and then click the Query button. Select FPGA Version.



Version of the FPGA will be displayed in the Version line:



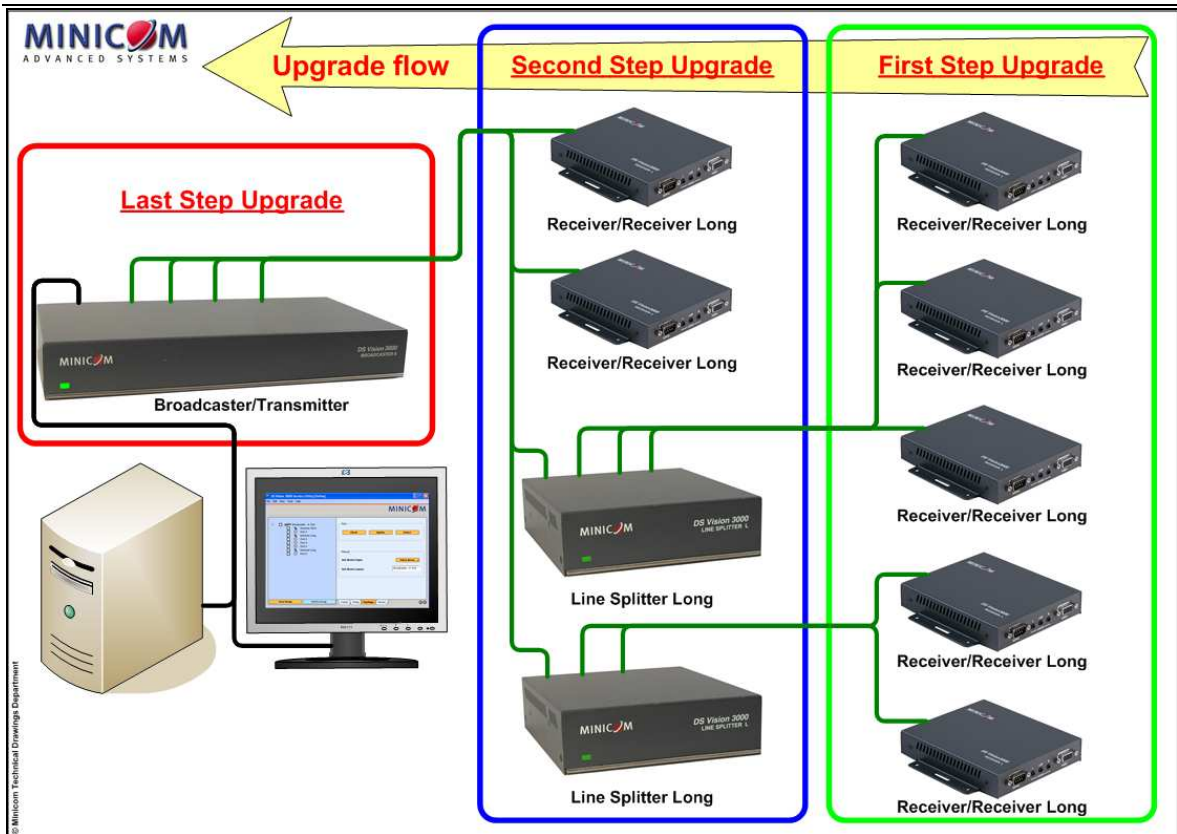
Devices with FPGA version V00.00 or version V15.15 are not compatible with FPGA version 01.00 or higher.

In order to preserve the system upgradability, start upgrading the units from the “bottom up”. This means that the upgrading of the system must be started from the units located further away from the Broadcaster/Transmitter in terms of the system topology. If the system consists of two layers, i.e. Line Splitter is connected to the Broadcaster and Receiver units connected to the Line Splitter, then the upgrade should start from the units connected to the Line Splitter, then after all units which are connected to the Line Splitter are upgraded, upgrade the Line Splitter itself and only then upgrade the Receivers connected to the Broadcaster unit. The Broadcaster/Transmitter should be upgraded in the last turn. See the picture below.

If for some reason the Broadcaster/Transmitter was upgraded before rest of the units were upgraded to the latest FPGA version, it will stop communicating with the Line Splitter and Receiver units making the firmware upgrade not possible.

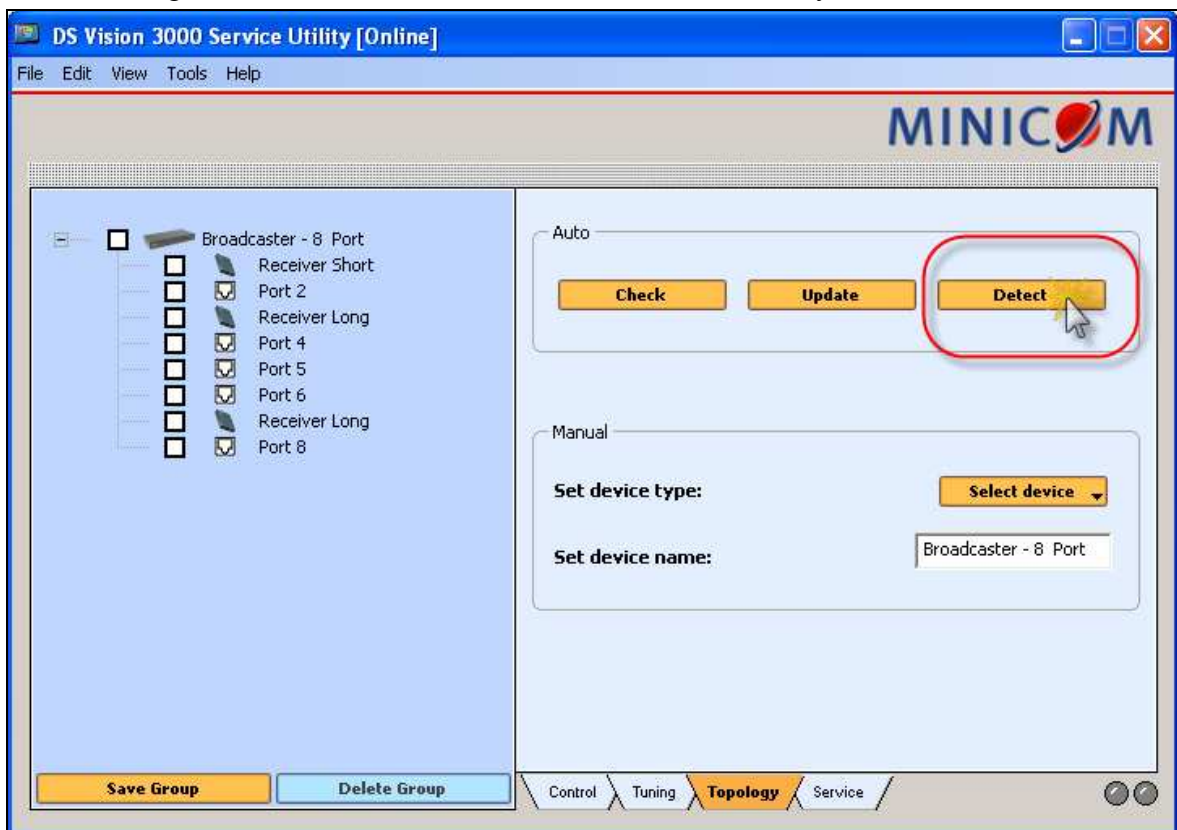
If your the system consists purely from the Receivers Long and Line Splitters units, then you may upgrade the Receiver Long and Line Splitters one by one individually by connecting them to the computer running the DS Vision Service Utility and upgrading their firmware and FPGA.

If your system has Receiver Unit which can't be upgraded directly, downgrade the Broadcaster/Transmitter FPGA to version V00.00, upgrade the Receiver firmware and FPGA and only then upgrade the Broadcaster/Transmitter FPGA version.

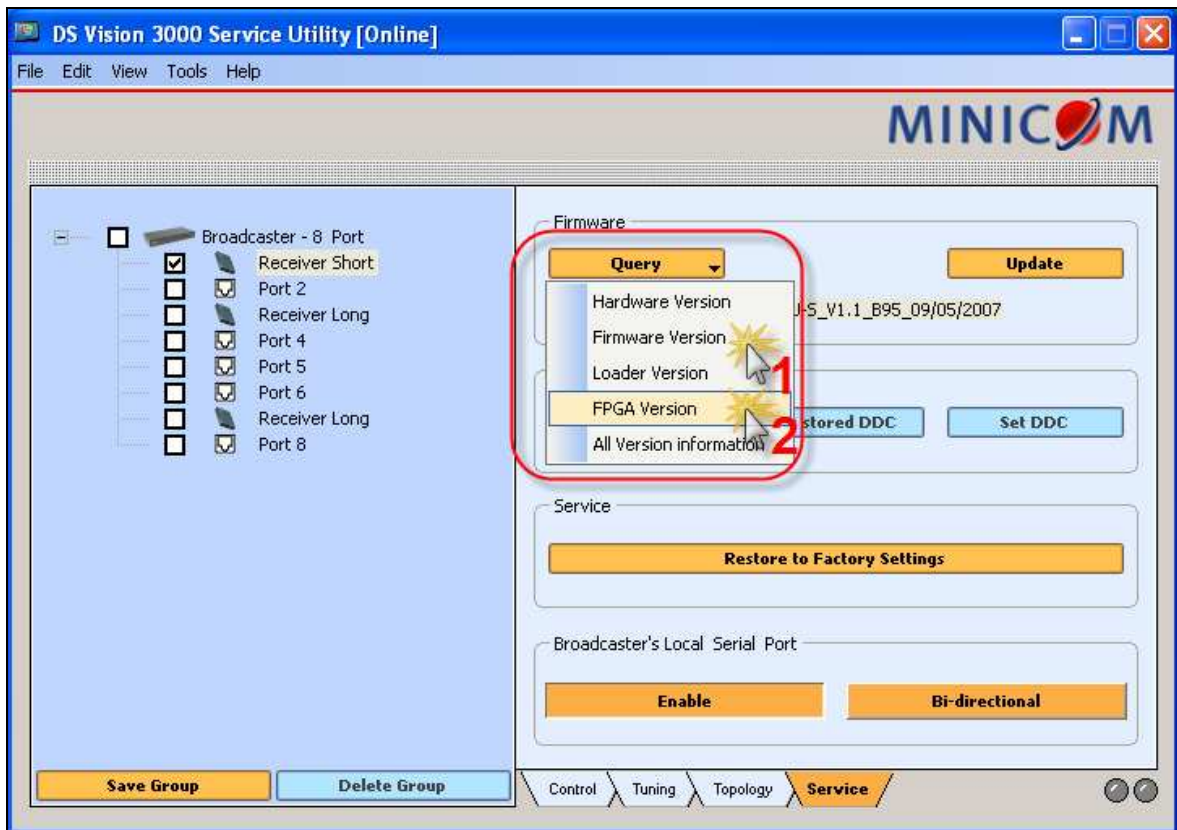


In order to upgrade the DS Vision system to the latest firmware and FPGA versions do the following:

1. Verify the system topology by clicking on the Detect button in Topology Tab and noting the number of levels and units connected to the system.



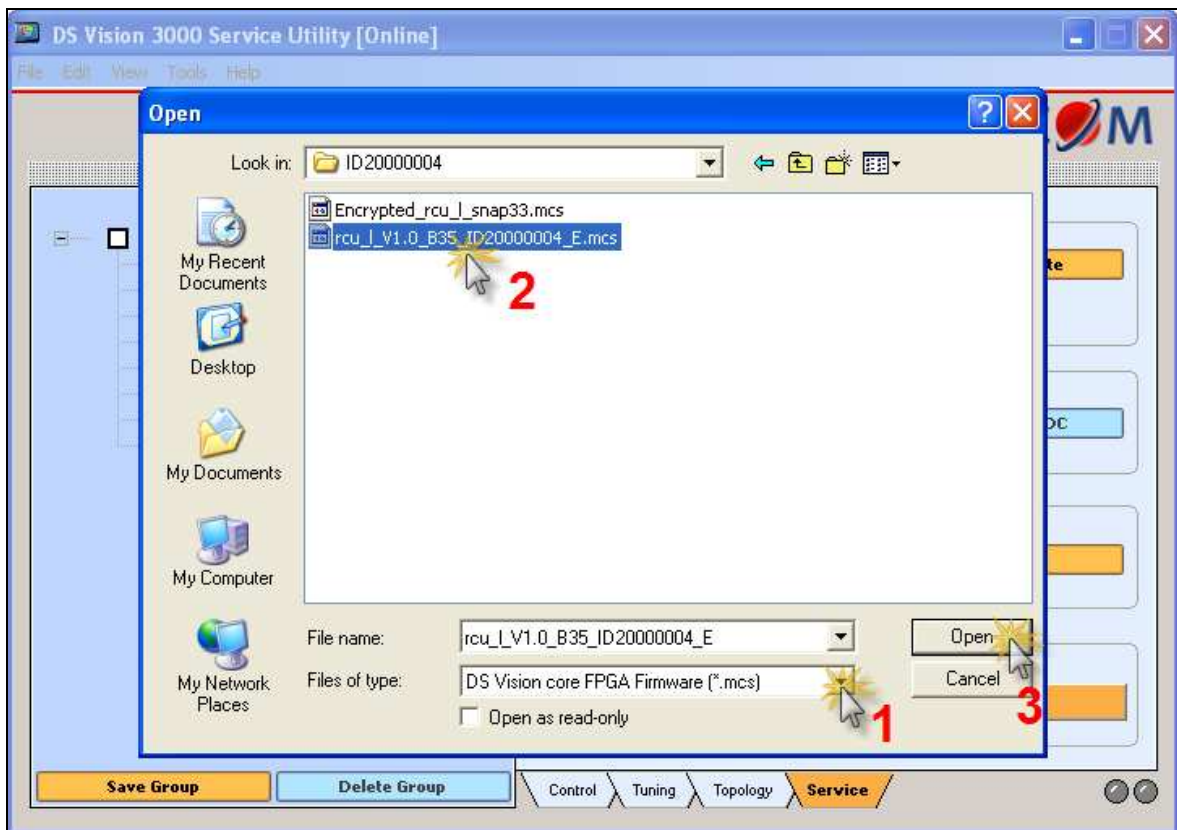
2. Check the Firmware and FPGA versions of all units by clicking on Query button in Service Tab and selecting the Firmware or FPGA. The version of firmware or FPGA will appear in the Version line:

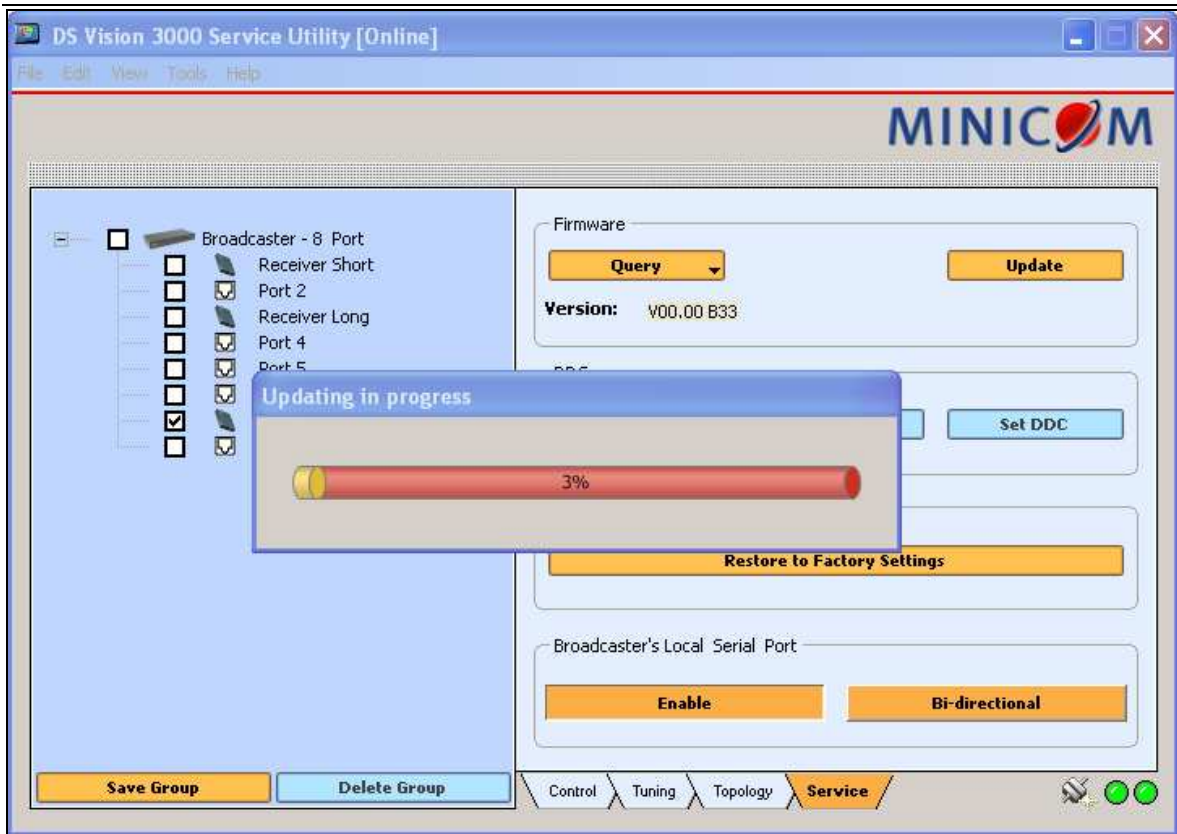


3. Select the units located further away from the Broadcaster/Transmitter from the topology point of view and upgrade their firmware to the latest version. To upgrade the firmware press the Update button on the Service Tab and select the firmware file with extension .hex. The firmware will start immediately after opening the file.

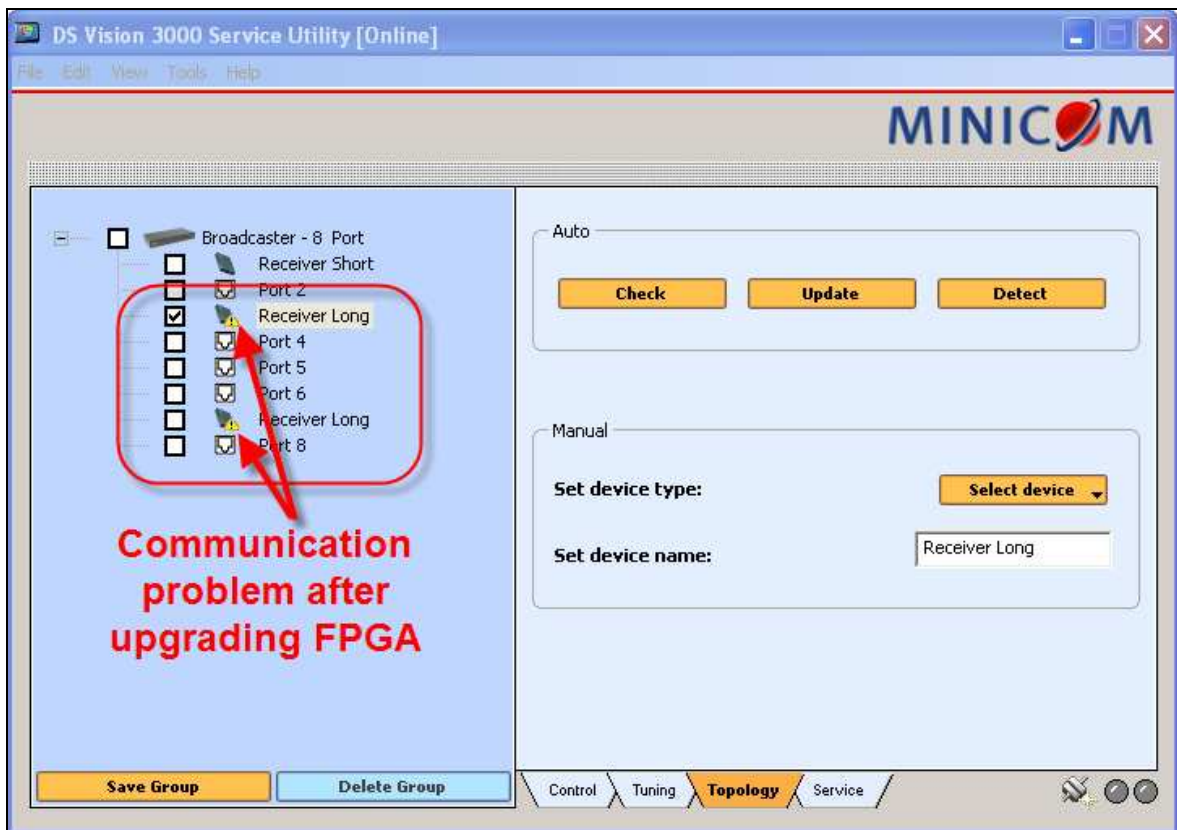


4. After the firmware upgrade finishes, press the Update button again and in the Open dialogue box select Files of type: “DS Vision core FPGA Firmware (*.mcs)”. Select the FPGA file with extension .mcs. The FPGA upgrade will start immediately after opening the file.



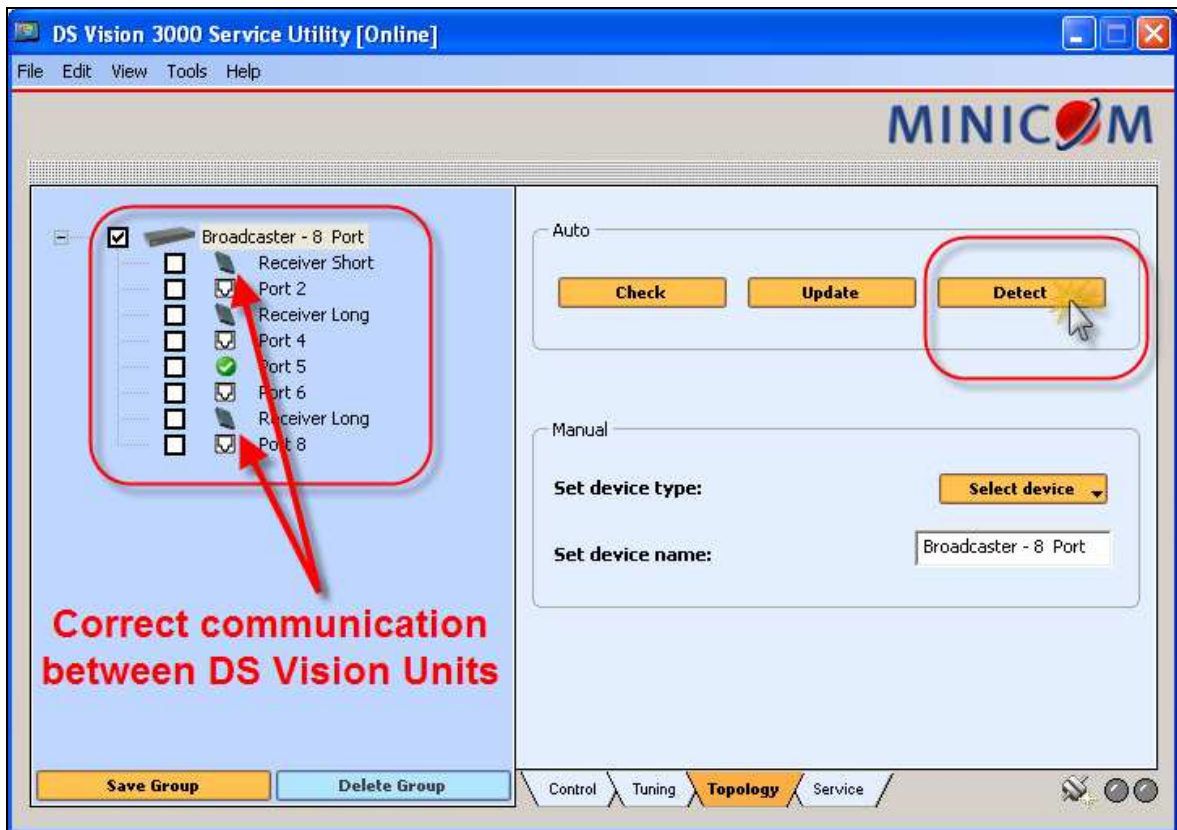


5. After the firmware upgrade finishes successfully, the upgraded unit will stop communicating with Broadcaster/Transmitter unit and may stop showing the video. This is normal and the unit will start displaying the video and communicating with Broadcaster/Transmitter unit after upgrading the Broadcaster/Transmitter FPGA.



6. Continue upgrading the units “from the bottom up”. After all Line Splitter and Receiver units upgraded to the latest FPGA version upgrade the Broadcaster/Transmitter unit. Once the Broadcaster/Transmitter is upgraded to the

latest firmware and FPGA it will start communicating with previously upgraded units and will show them in the topology. (Press Detect or Check buttons in the Topology Tab to update the topology tree.)



- The system firmware and FPGA upgrade is finished and the system starts functioning properly. If you purchased Line Splitter Short or Receiver Dual Cascade Long units, you may connect them to the system at this stage because their FPGA has version V01.00 and the system will recognize them correctly.

COMMENTS:

- All newly manufactured units starting from November 2007 will have FPGA version V01.00 preinstalled in the factory.
- Broadcaster 8 Port 1VS50003, Transmitter 1 Port 1VS50005, Line Splitter Long 1VS50002, Receiver Long 1VS50001 and Receiver 1VS50010 with FPGA version V01.00 will have revision 2.0 of the unit level.
- All latest DS Vision system firmware and FPGA files and DS Vision Service Utility can be downloaded from our DS Vision support web page:
<http://www.minicom.com/phandlk.htm>