4450 Sojourn Drive
Suite 300
Addison, TX 75001

D (800) 889-1461
F (972) 248-9533

industrialnetworking.com

How To
Update Firmware on Hirschmann Switches

This manual is only intended for use with Hirschmann Platform devices:

- *RS20/30/40*
- *RSR20/30*
- *MS20/30*
- *PowerMICE*
- *MACH100/1000/4000*
- *OCTOPUS*

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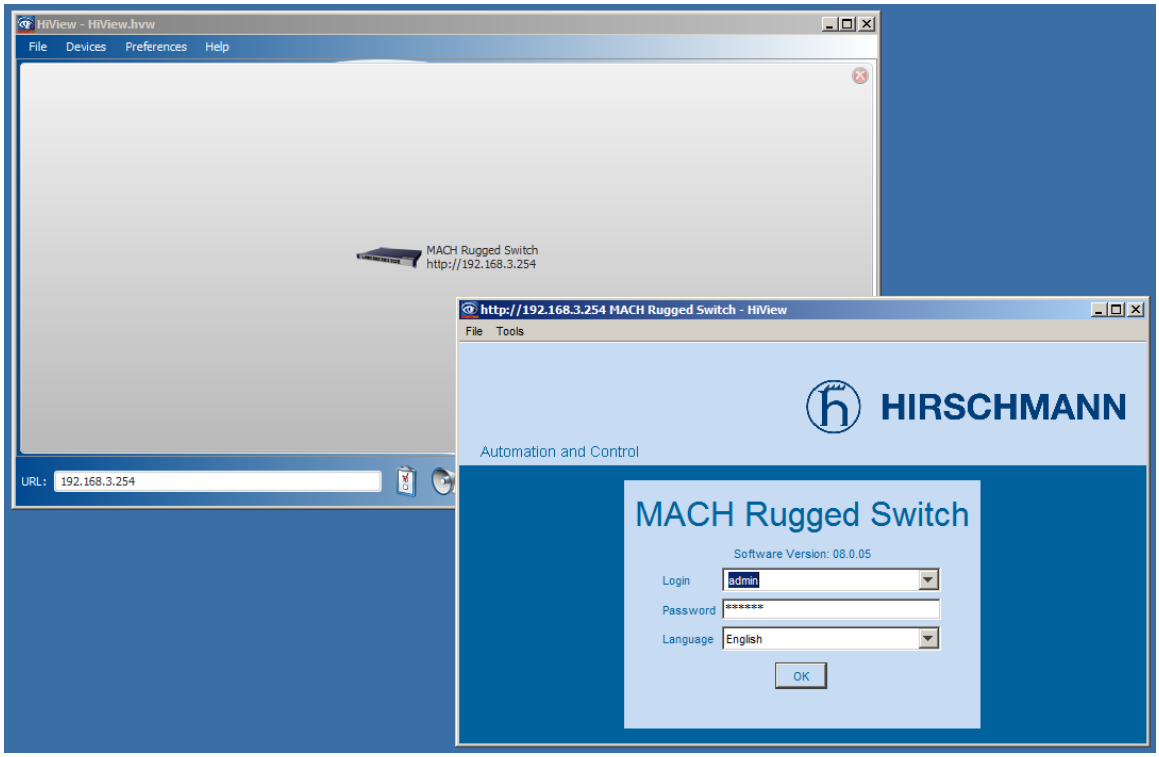
1. Update firmware using HiView

1.1. Open HiView

Open HiView and type the IP address of the switch into the URL field and press Enter. If you do not have HiView, download the latest version from the Hirschmann US FTP site.

ftp://ftp.hirschmann-usa.com/INET-IndustrialNetworking/Software/HiView/

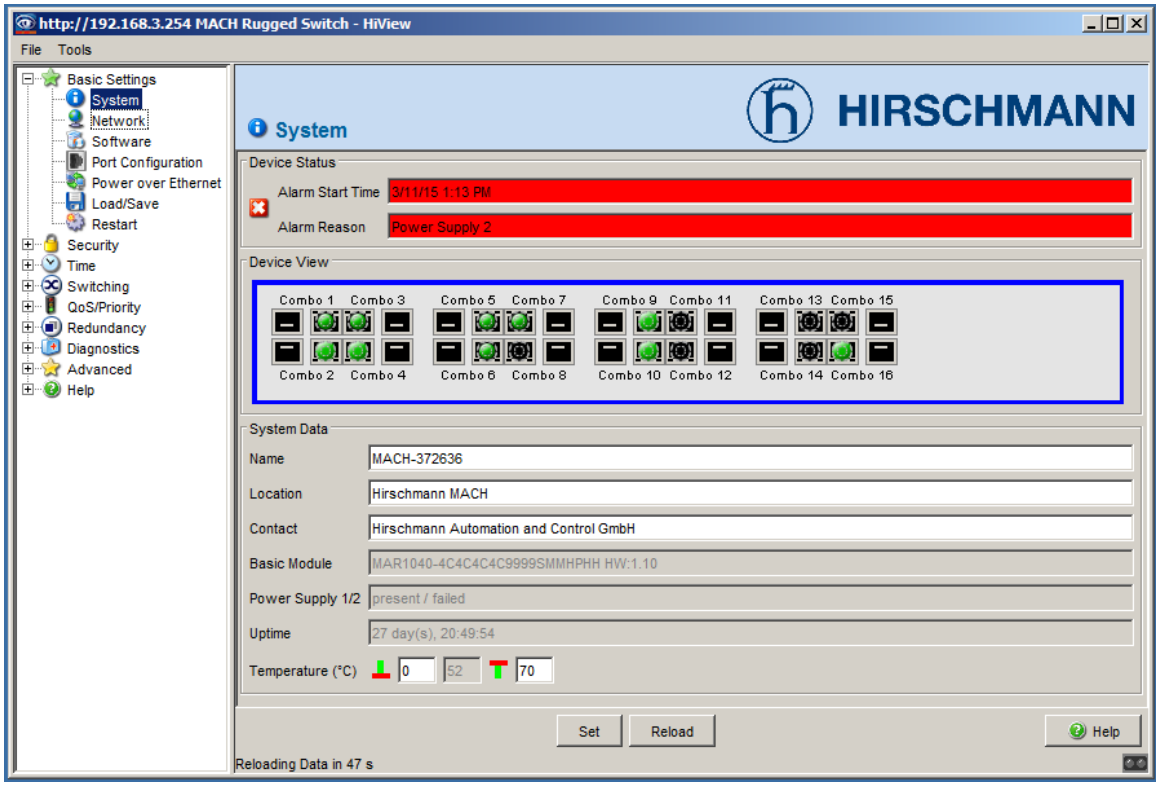
Once the device has loaded, a login screen appears.



To be able to upload new firmware, log in with administrative rights. For a new switch, use the default values of:

Login: admin (=default)
Password: private (=default)
Language: English

After a successful login, HiView opens the “Basic Settings > System” page. The “Basic Module” field shows the model of the switch that is targeted for update (MACH1040 in this instance).

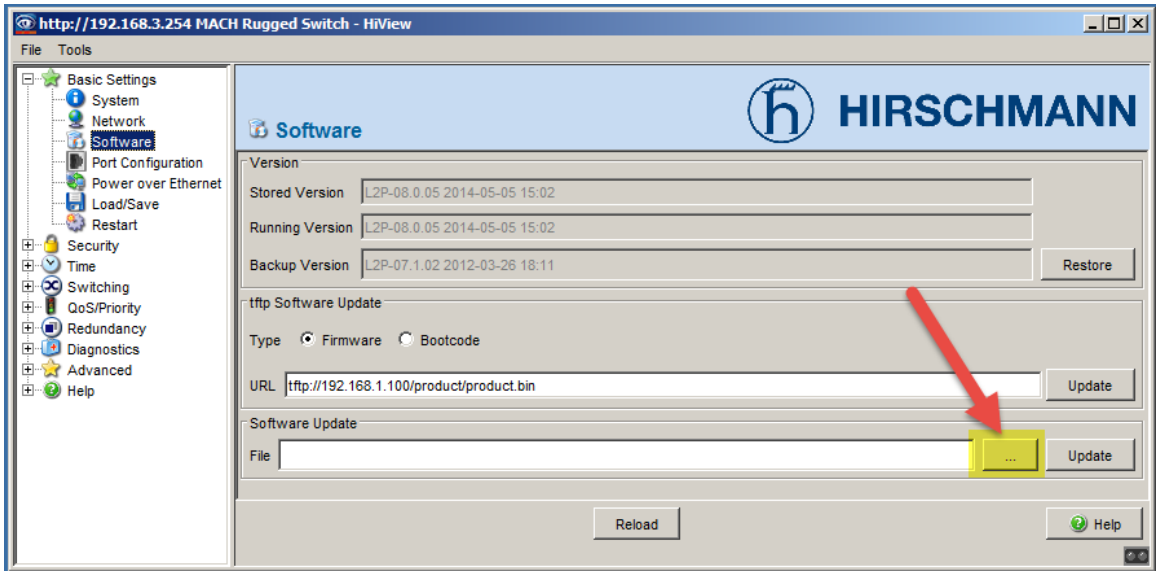


1.2. Upload new software

If you do not already have the firmware you wish to load, download the appropriate version from the Hirschmann US FTP site.

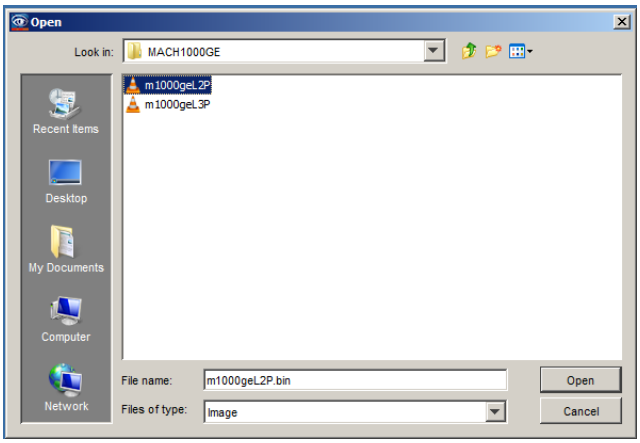
ftp://ftp.hirschmann-usa.com/INET-IndustrialNetworking/Firmware/

The download package will be a ZIP archive, so extract the archive to see its contents. The package contains several different files; it is crucial to select the correct one. On the “Basic Settings > Software” page, note the “Running Version” of software. Note whether the software is Layer 2 (L2) or Layer 3 (L3), as well as whether it is Enhanced (E) or Professional (P). In our case, the switch is running L2P, or Layer 2-Professional.

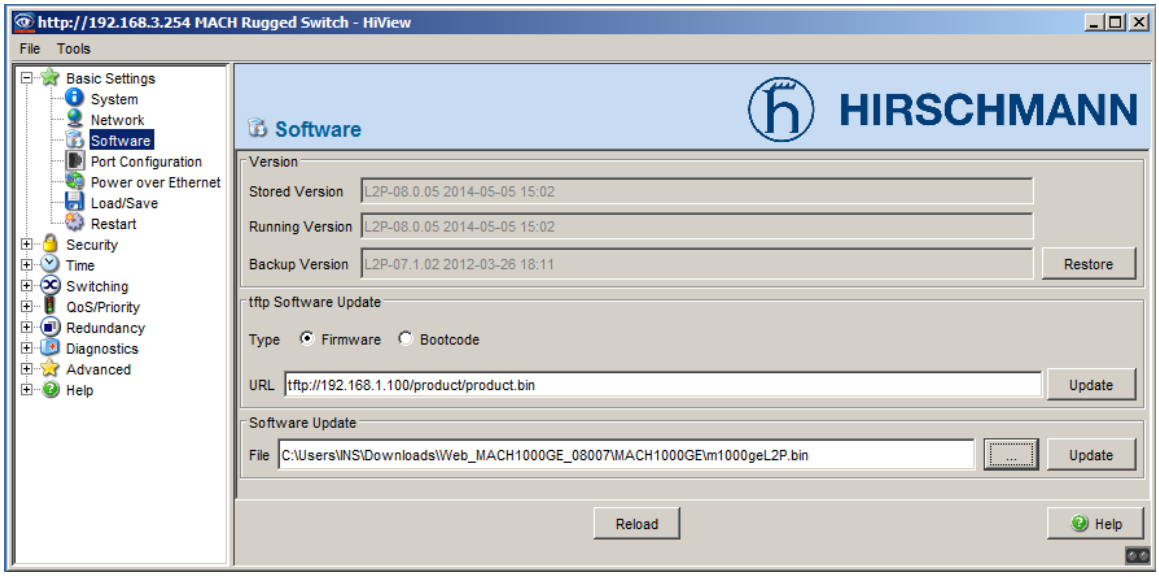


Click the "…" button in the "Software Update" section.

A file selection window pops up. Search for and select the correct firmware file for the switch. With the file selected, click "Open".

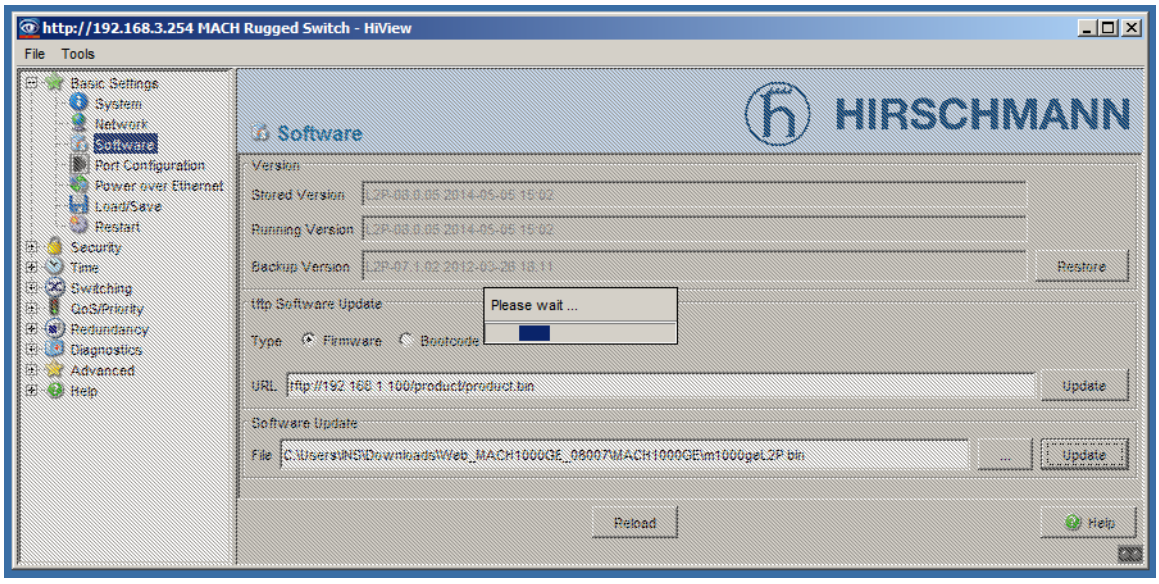


The full file path is automatically added to the File field.

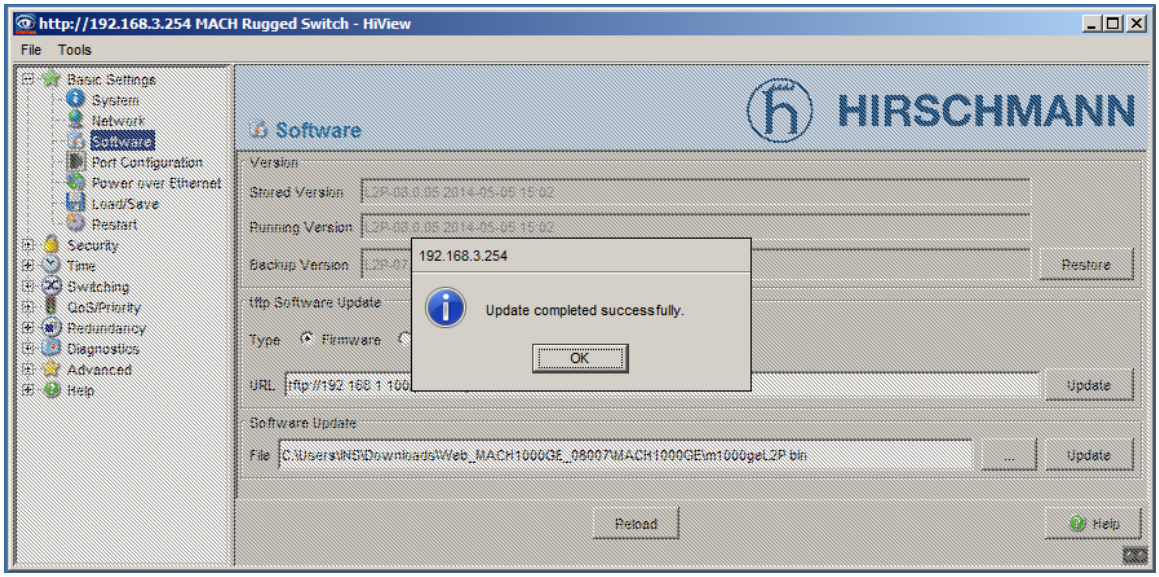


Start the update process by clicking the “Update” button.

During the file upload, the window is grayed out, and a “Please wait …” pop-up message is shown.



Wait until the “Please wait …” window is replaced with an “Update completed successfully.” popup.



Confirm with “OK”.

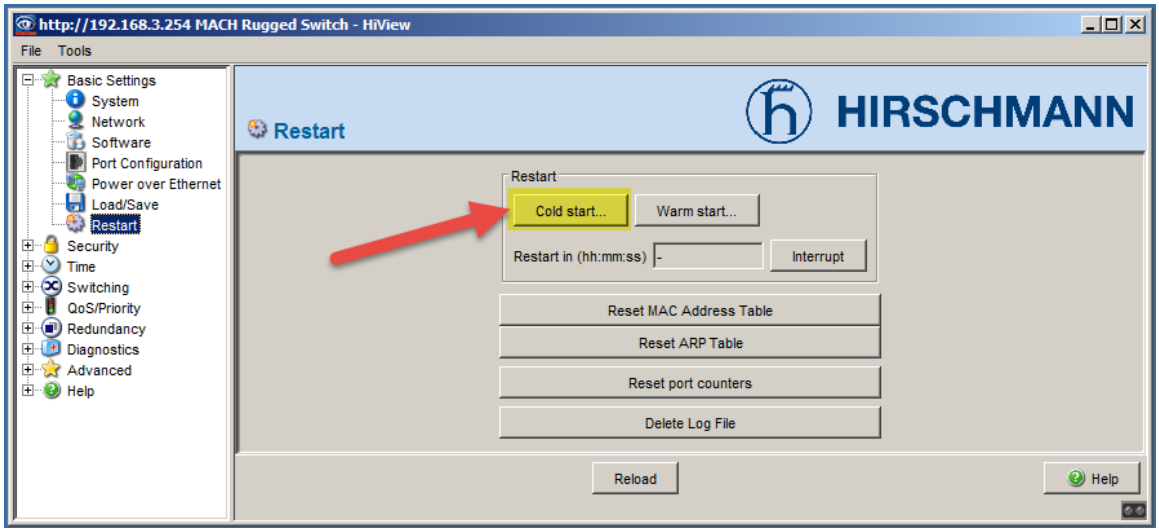
Click on “Reload” to check the “Stored and Running Version”.

1.3. Activate the new firmware

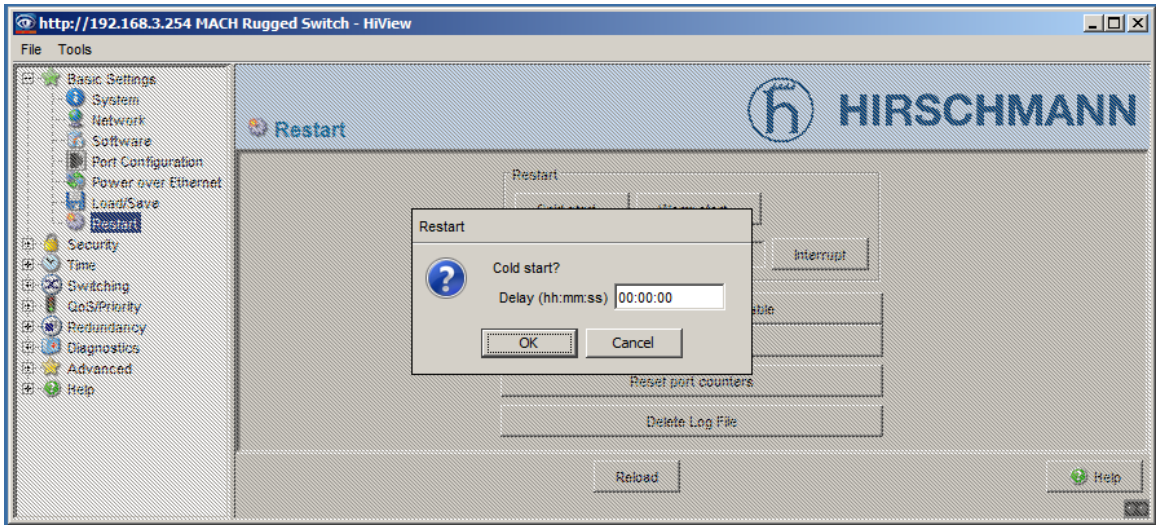
A “Cold Start” is required to activate the newly uploaded firmware.

WARNING: Initiating a Cold Start will reboot the switch and impact the network! This should only be done at a time when a brief switch outage is acceptable.

Go to the “Basic Settings > Restart” page and click on “Cold Start”.



Confirm with “OK”.

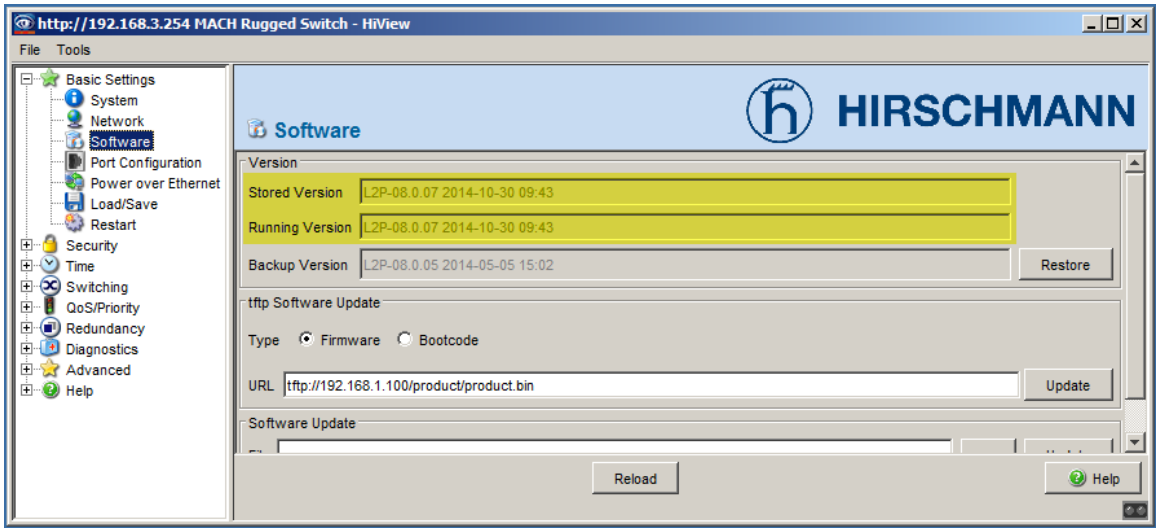


The switch reboots, and the HiView session is interrupted.



The session may be reloaded by going to “File > Login screen” menu after about 2 minutes.

Go to the “Basic Settings > Software” page to ensure both the Stored and Running Versions show the latest firmware version.


http://192.168.3.254 MACH Rugged Switch - HiView
File
Tools
Basic Settings
System
Network
Software
Port Configuration
Power over Ethernet
Load/Save
Restart
Security
Time
Switching
QoS/Priority
Redundancy
Diagnostics
Advanced
Help
Software
HIRSCHMANN
Version
Stored Version
L2P-08.0.07 2014-10-30 09:43
Running Version
L2P-08.0.07 2014-10-30 09:43
Backup Version
L2P-08.0.05 2014-05-05 15:02
Restore
tftp Software Update
Type
Firmware
Bootcode
URL
tftp://192.168.1.100/product/product.bin
Update
Software Update
Reload
Help

2. Update firmware using TFTP

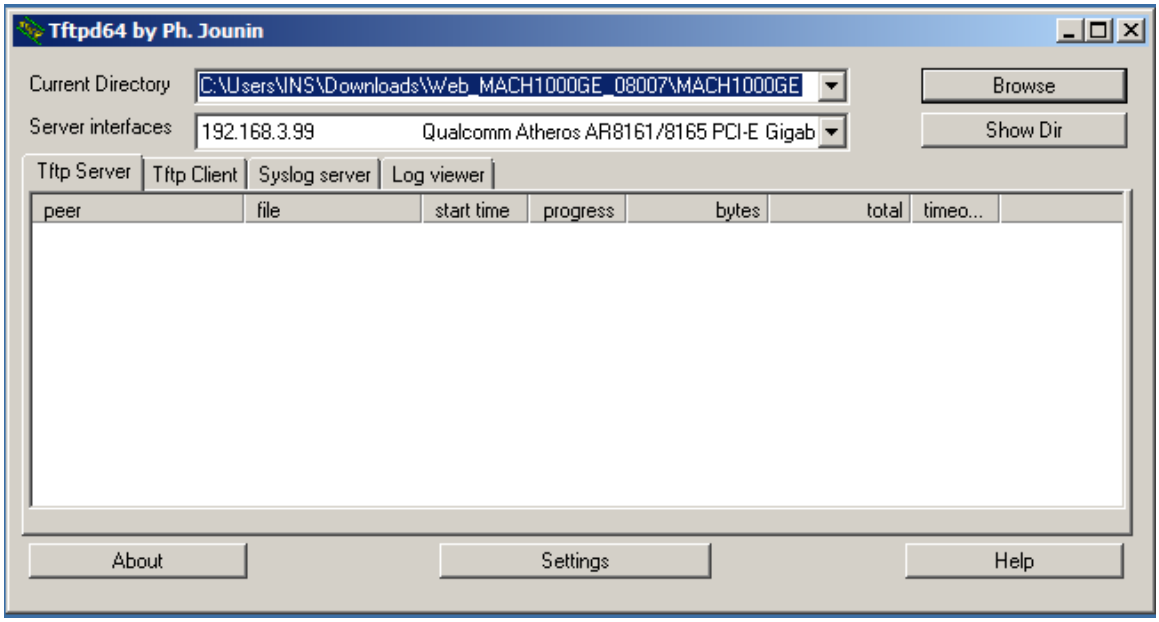
2.1. Prepare TFTP Server

For a TFTP update, a TFTP server is required to store the firmware file. TFTP stands for Trivial File Transfer Protocol.

In this document, the freeware program "Tftpd32" or "Tftpd64"– from Ph. Jounin, a free download from http://tftpd32.jounin.net/ – is used to run a TFTP server on the PC where the firmware file is located.

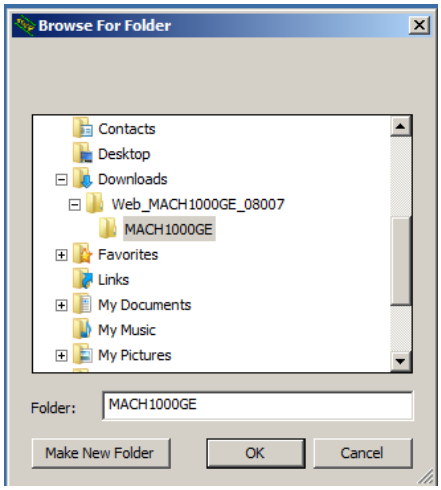
If you do not already have the firmware you wish to load, please see Section 1.2 for download details.

Start the "tftpd32.exe" (or "tftpd64.exe") program.



If your PC has multiple network cards, be sure to select the correct "Server interface" – the IP address should be in the same subnet as the switch.

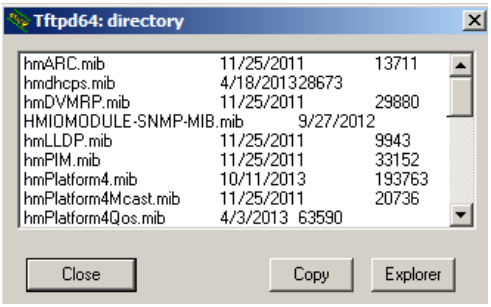
Change the "Current Directory" to the folder where the firmware file can be found. You can use the "Browse" button to accomplish this.



Search for the folder that contains the ".bin" file for the update.

Confirm with "OK".

To be sure the desired firmware file is available in the selected directory; click "Show Dir" in the main program window.



Minimize the TFTP server window (do not close the TFTP server program).

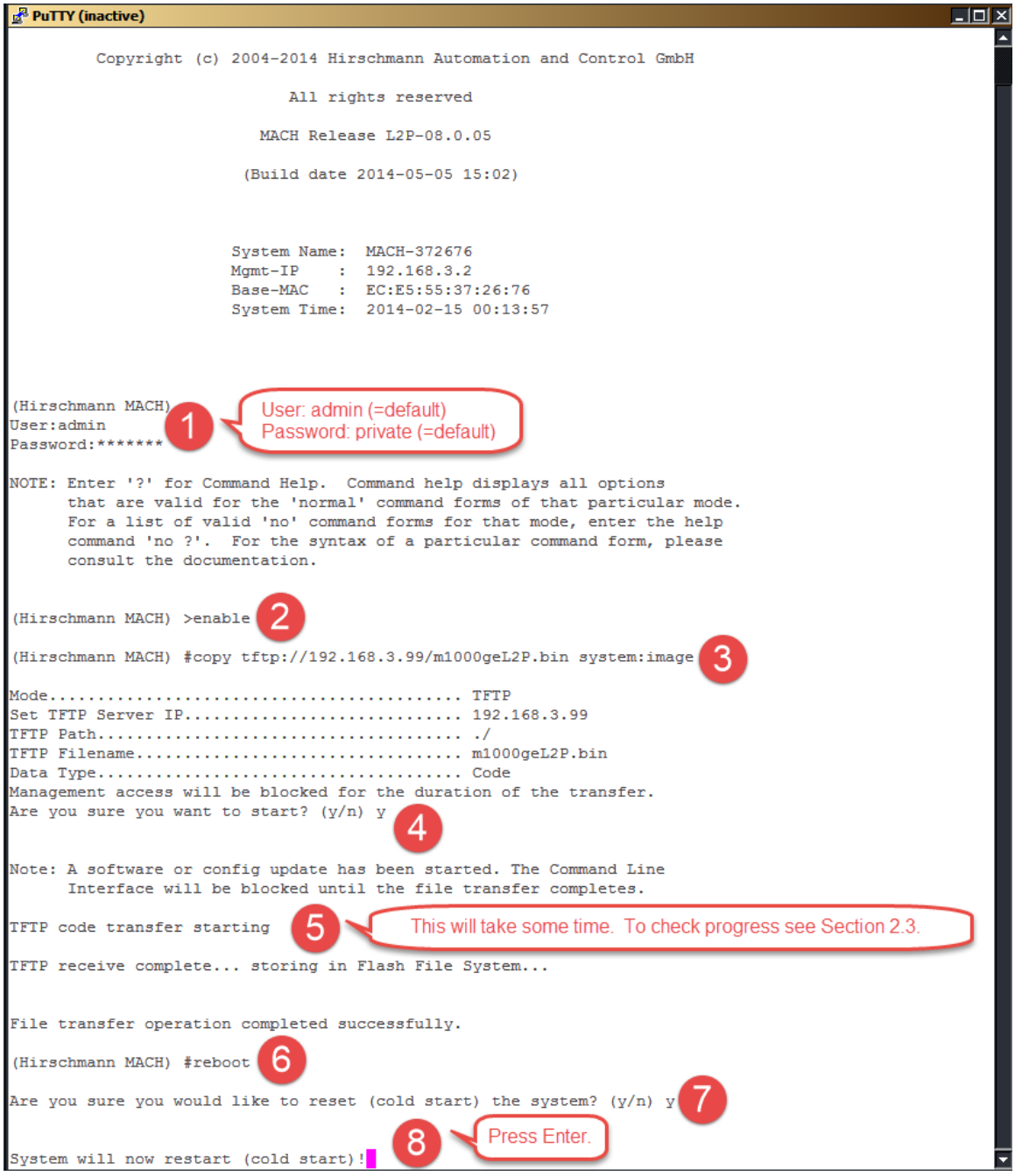
2.2. Start TFTP update from telnet

Setup a TFTP server as described in Section 2.1.

Start a telnet session using your favorite application (e.g. HyperTerminal, PuTTY, etc.).

In our example the TFTP server has the IP address 192.168.3.99, and the switch has the IP address 192.168.3.2. The following graphic shows a sample telnet session. Required input and user command examples are marked in red.

WARNING: Initiating a Cold Start will reboot the switch and impact the network! This should only be done at a time when a brief switch outage is acceptable.

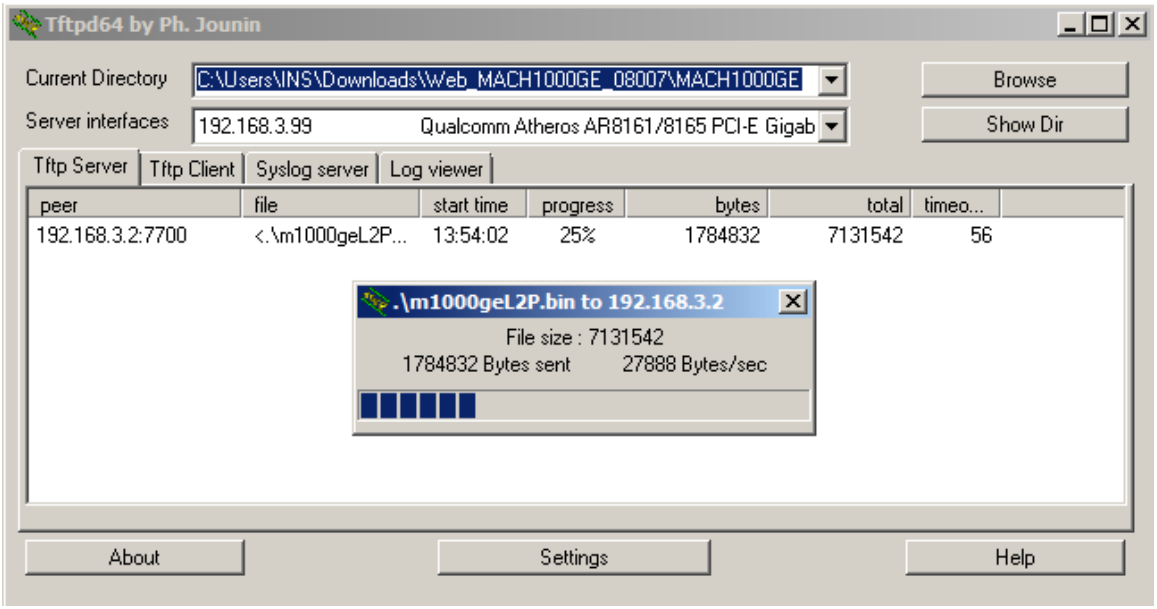


The switch reboots, and the telnet session is interrupted.

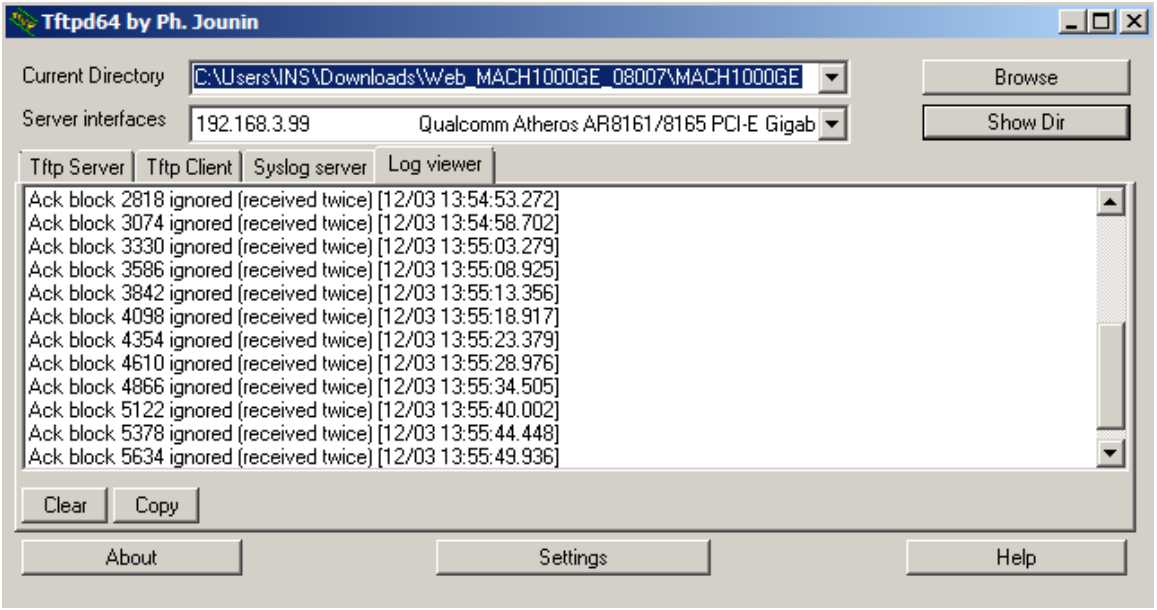
To check the results of the upgrade and for further configuration, log in to the switch using HiView after about 2 minutes.

2.3. Monitor TFTP-upload process

During the upload, the progress can be monitored by viewing the Tftpd program window.



Both the “Tftp Server” and “Log viewer” tabs contain progress information.



After the file is completely transferred, it still takes some time to write the software file to flash.

3. Update firmware using ACA21

3.1. Manual update

This method requires an ACA21 or any other compatible USB-stick, and local serial communication through the V24-connector.

Preparation

If you do not already have the firmware you wish to load, please see Section 1.2 for download details.

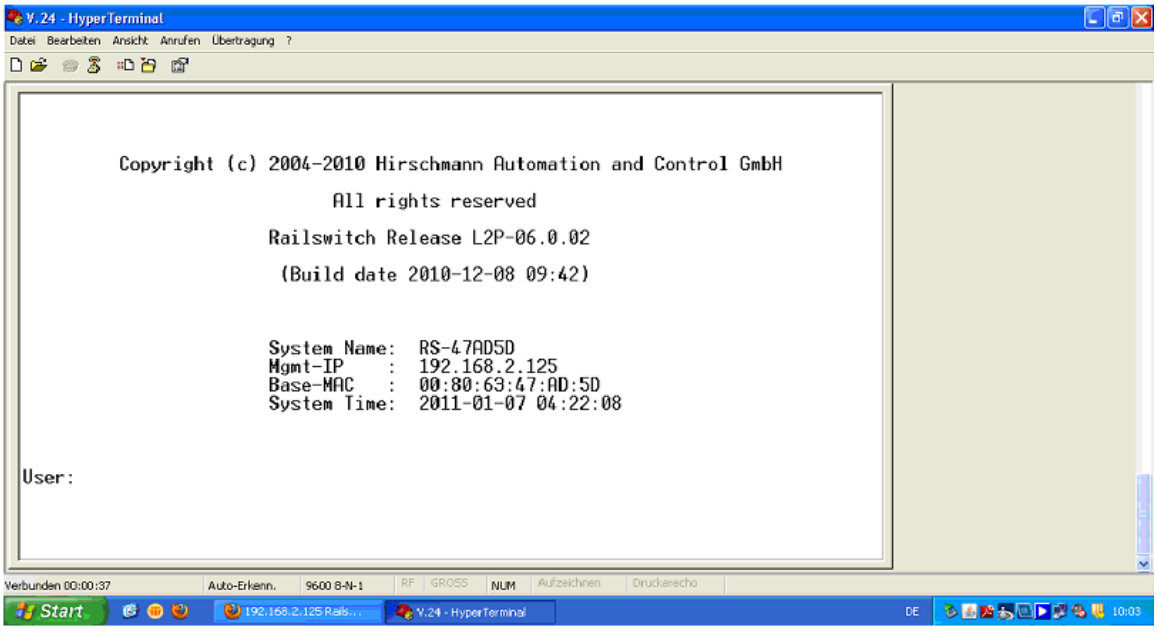
The desired firmware .bin file must be copied to the root directory of the USB. If it is placed in a subfolder, the switch will not recognize it.

Plug the USB-stick into the switch you want to update.

Connect the V24 socket with the XMODEM cable to your PC.

Open a terminal session (V24.ht) with a HyperTerminal program.

Press Return to connect to the switch.

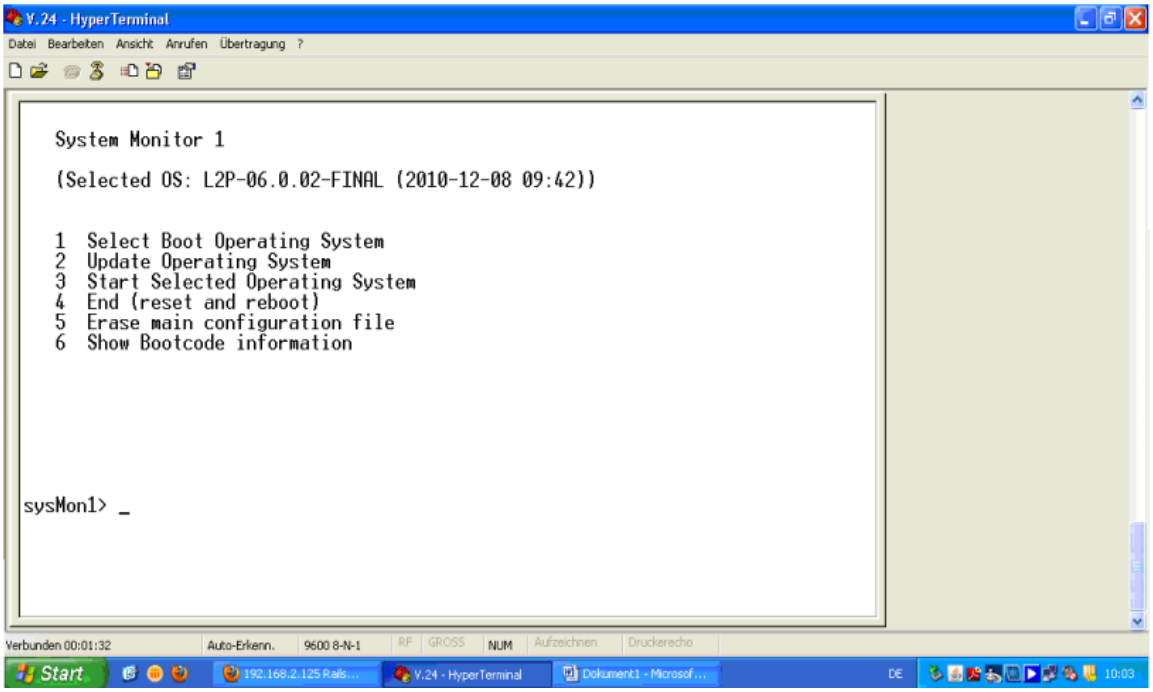


Update process

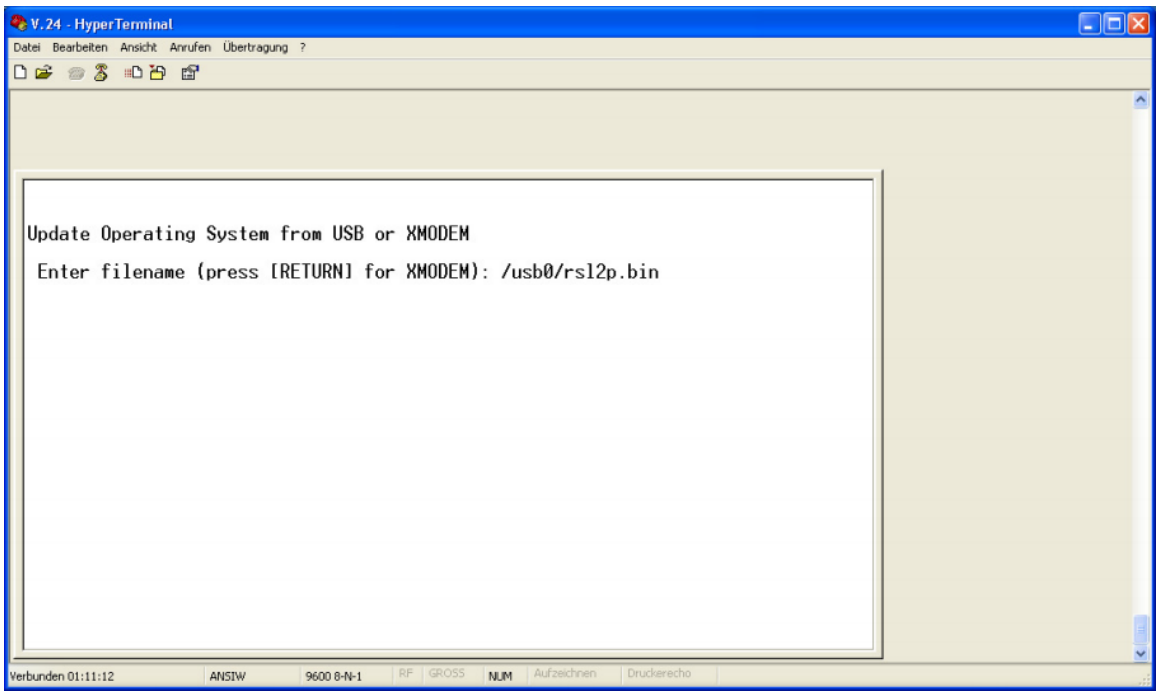
Pull the power plug to shut down the switch.

Put the power plug back in to boot the switch

Attention: quickly press “1” after the reboot (30 sec span) to cause the “System Monitor” menu to appear.



Select “Update Operating System” by typing “2”.



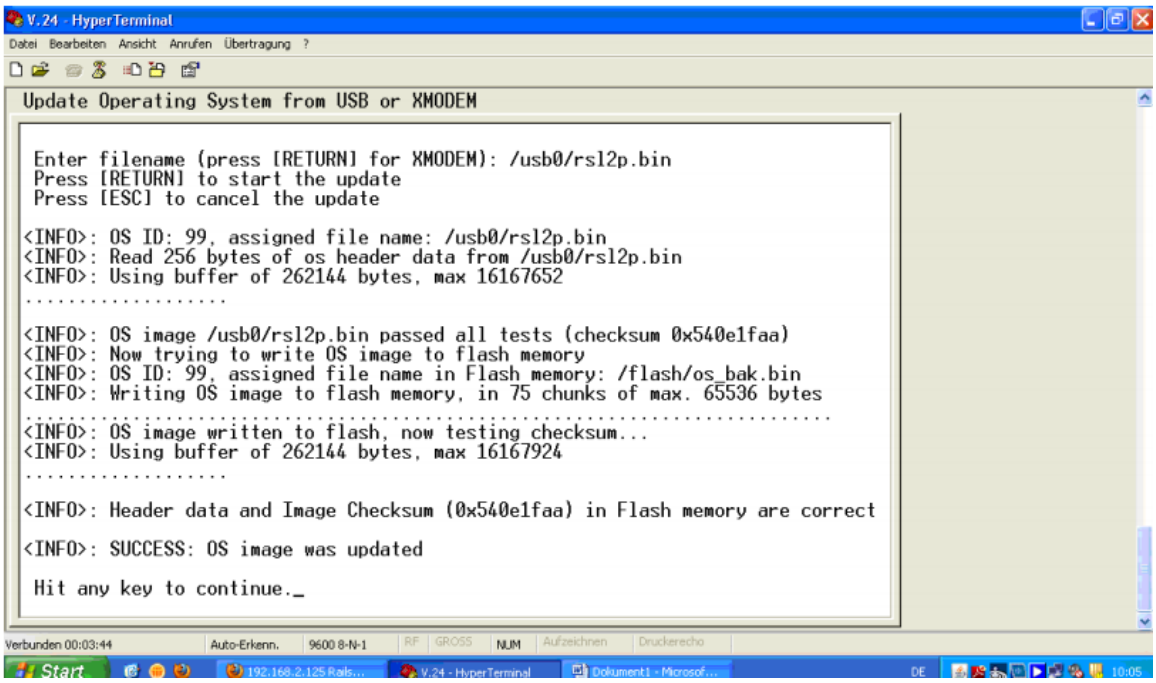
Complete the line with the path to the firmware file name and location.

Add /usb0/{ firmware file name .bin }

In our example /usb0/rsl2p.bin

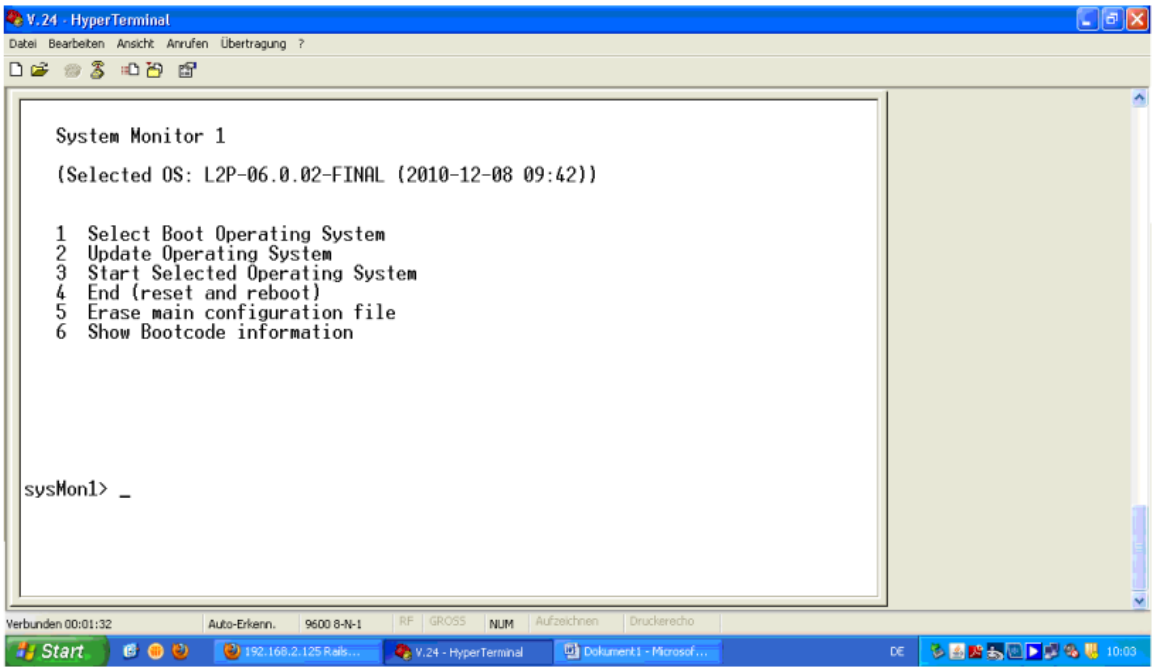
Confirm 2 times by pressing “Return”.

The firmware file is then uploaded, checked for errors, written to flash, and checked again.



Only after the statement “Hit any key to continue” appears, the file has been transferred successfully.

Hit any key to continue. The System Monitor menu will reappear.



Choose "4 End (reset and reboot)" by pressing "4". The switch will reboot. This completes the update process.

You can now close all program, disconnect the XMODEM cable and the ACA21 USB-stick.

To check the results of the upgrade and for further configuration, log in to the switch using HiView.

3.2. Automatic update

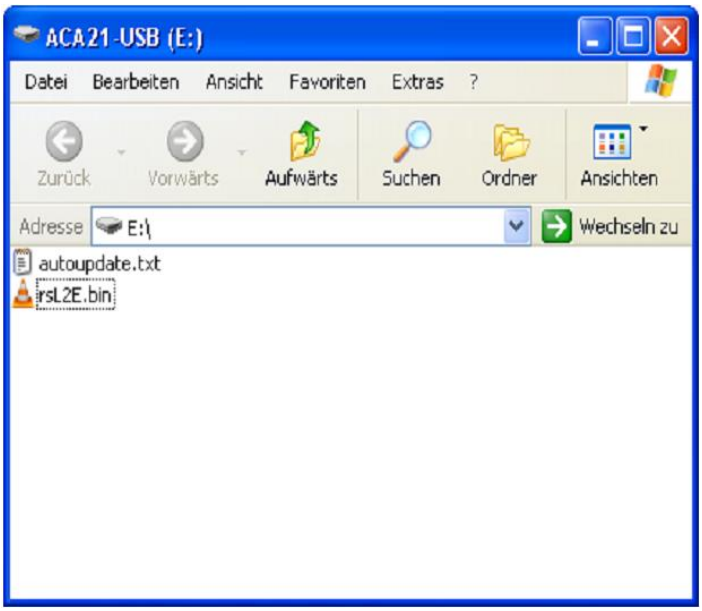
This method only works if the running firmware is v6.x or higher.

If you do not already have the firmware you wish to load, please see Section 1.2 for download details.

The desired firmware .bin file must be copied to the root directory of the USB. If it is placed in a subfolder, the switch will not recognize it. The update will be executed even if the version on the stick is older than the current running version.

Name the file according to the device and software variant (e.g. "rsL2P.bin" for an RS20). This operation is case sensitive.

Create an additional empty file in the root directory of the USB-stick and name it "autoupdate.txt".



Plug the USB-stick into the switch targeted for update and reboot it.

The switch will automatically update and perform a Cold Start afterwards.

To check the results of the upgrade and for further configuration, log in to the switch using HiView.