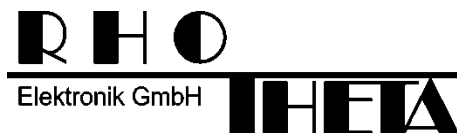


User Manual

RT-1000 Multichannel Network Interface



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Note

The manufacturer reserves the right to make modifications at any time and without previous information of the here described product.

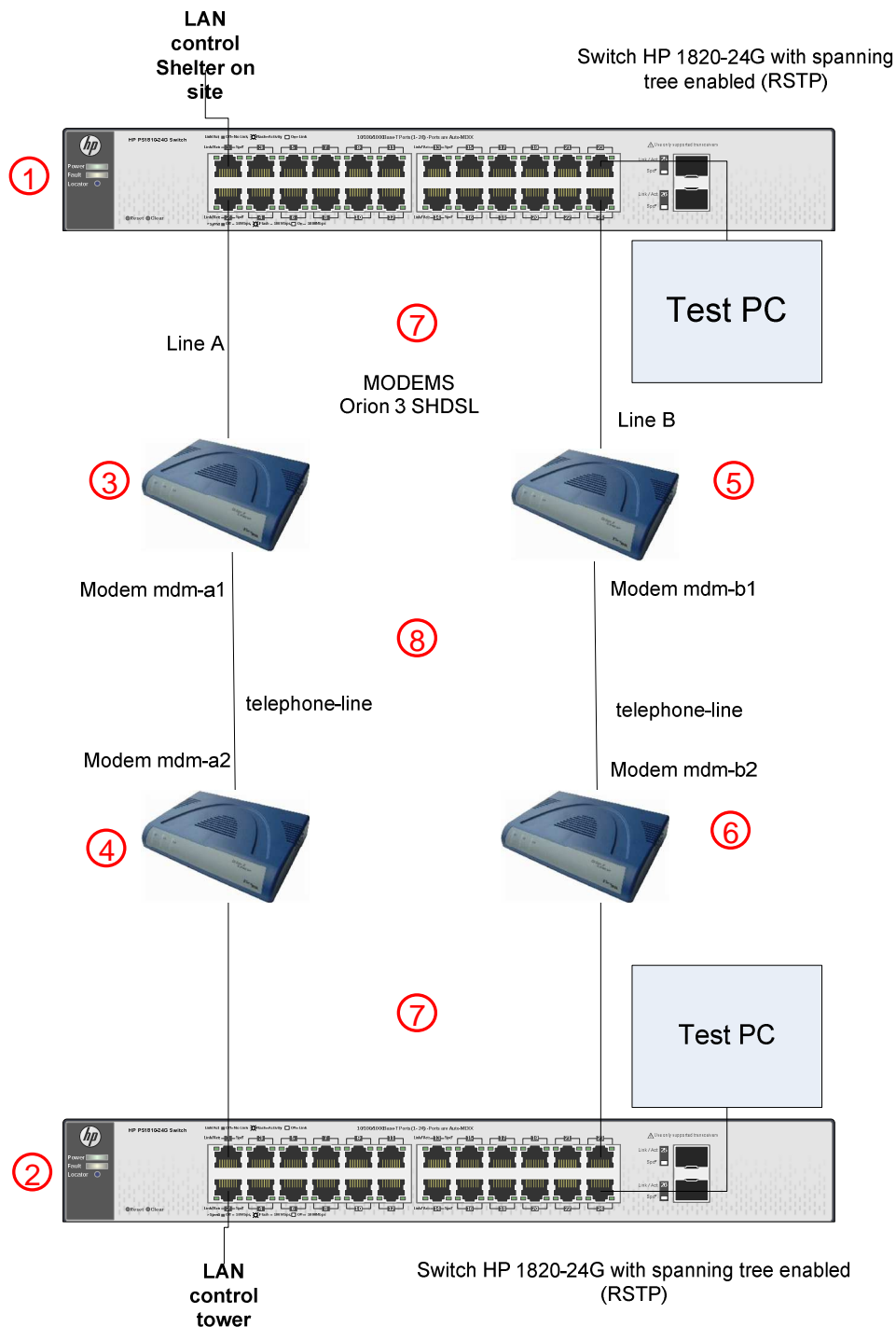
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1 Description

The network interface for the RT-1000 multichannel direction finder system includes all devices to connect the system over an internet connection to a remote PC. The network interface is built with a redundancy in the transmission/ telephone line. Therefore 2 network switches and 4 DSL modems are necessary.

2 Block Diagram



3 Components

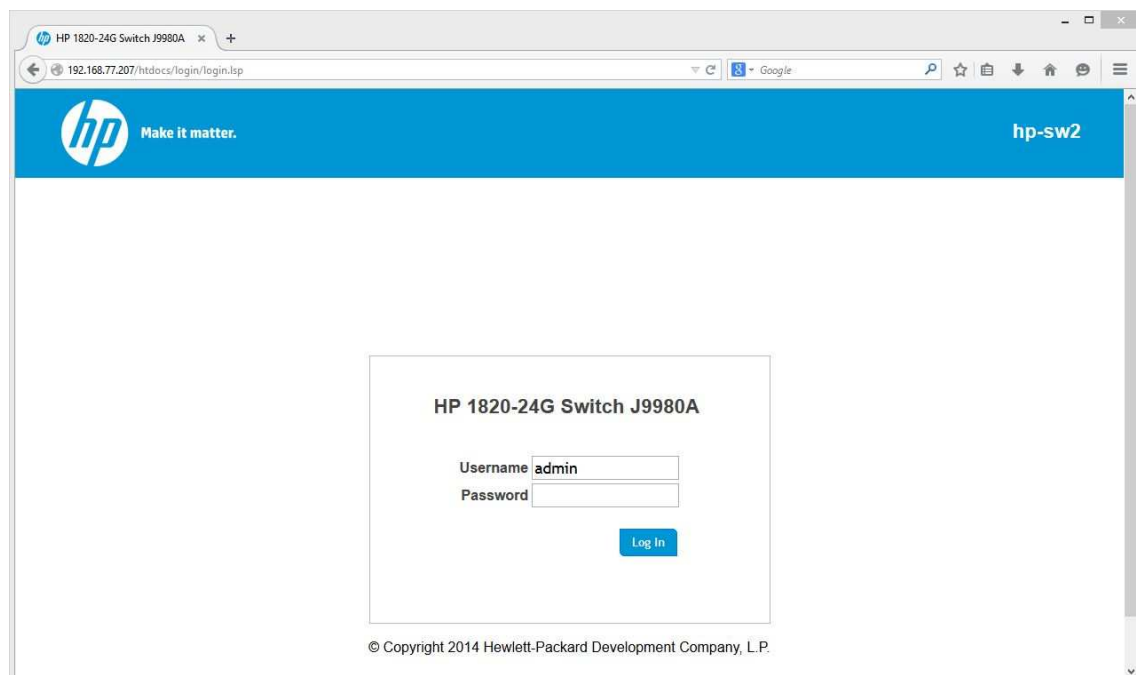
DF Channel Components		
Pos.	Component	Description
1	Network Switch (Cabinet)	HP 1820-24 G with spanning tree enabled
2	Network Switch (Tower)	HP 1820-24 G with spanning tree enabled
3	Modem A1	Orion 3 SHDL modem, line one, master configuration
4	Modem A2	Orion 3 SHDL modem, line one, slave configuration
5	Modem B1	Orion 3 SHDL modem, line two, master configuration
6	Modem B2	Orion 3 SHDL modem, line two, slave configuration
7	LAN connection	Network cable
8	DSL connection	Telephone cable

4 Network Interface Configuration

4.1 Switch Configuration

To configure the network switches a PC with a network interface card (NIC) and a browser must be connected to the switch. The NIC should be configured according to the subnet of the switch.

1. Connect to the shelter switch (Pos. 1) with default IP 192.168.1.1 (if no DHCP is available)
2. Login to the switch with default user parameters
Username: admin
Password: _____ (no password)



- Go to the page “Setup Network”, “get connected” and set IP settings as required.
 IP address: 192.168.77.207
 Subnet Mask: 255.255.255.0
 Gateway Address: 192.168.77.1

HP 1820-24G Switch J9980A

Setup Network > Get Connected

Save Configuration Log Out

Get Connected

Network Details

Protocol Type: ☒ Static ☐ DHCP

IP Address: 192.168.77.207 (x.x.x.x)

Subnet Mask: 255.255.255.0 (x.x.x.x)

Gateway Address: 192.168.77.1 (x.x.x.x)

MAC Address: 8C:DC:D4:F7:E8:20

Web Parameters

Session Timeout (Minutes): 5 (1 to 60)

Management Access

Management VLAN ID: 1

Management Port: None

SNMP

SNMP: ☒ Enabled ☐ Disabled

Community Name: public (1 to 20 characters)

Apply Refresh Cancel

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- Press “Apply” and reconnect the PC to the switch with the new IP address.
- Go to “Setup Network”, “System Time” and set time settings as required and press “Apply”

HP 1820-24G Switch J9980A

Setup Network > System Time > Time

Save Configuration Log Out

Time Configuration

Set System Time: ☒ Using Simple Network Time Protocol (SNTP) ☐ Manually

SNTP Configuration

SNTP Client: ☒ Enabled ☐ Disabled

SNTP/NTP Server: 129.70.132.34 (x.x.x.x)

Server Port: 123 (1 to 65535)

Last Update Time: Jan 1 00:00:00 1970

Last Attempt Time: Jan 1 00:10:01 1970

Last Attempt Status: Request Timed Out

Requests: 8

Failed Requests: 4

Manual Time Configuration

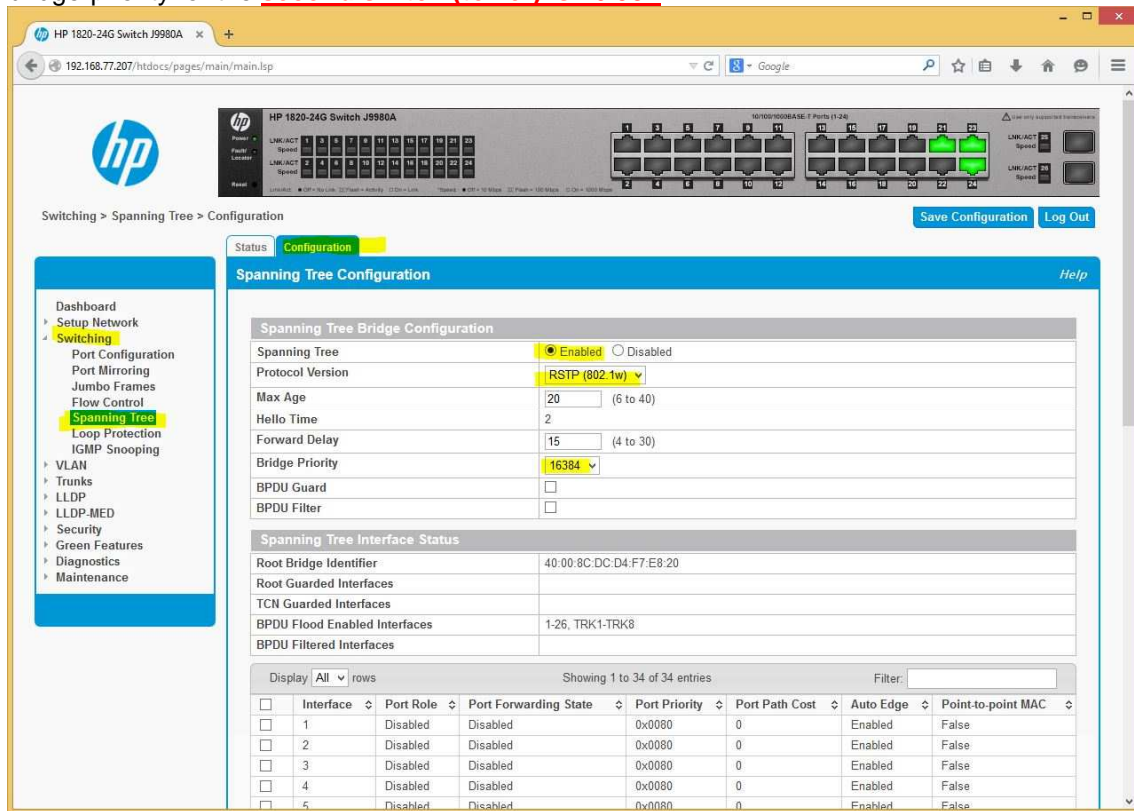
Time: 01:11:06 (00:00:00 to 23:59:59)

Date: January 1, 1970

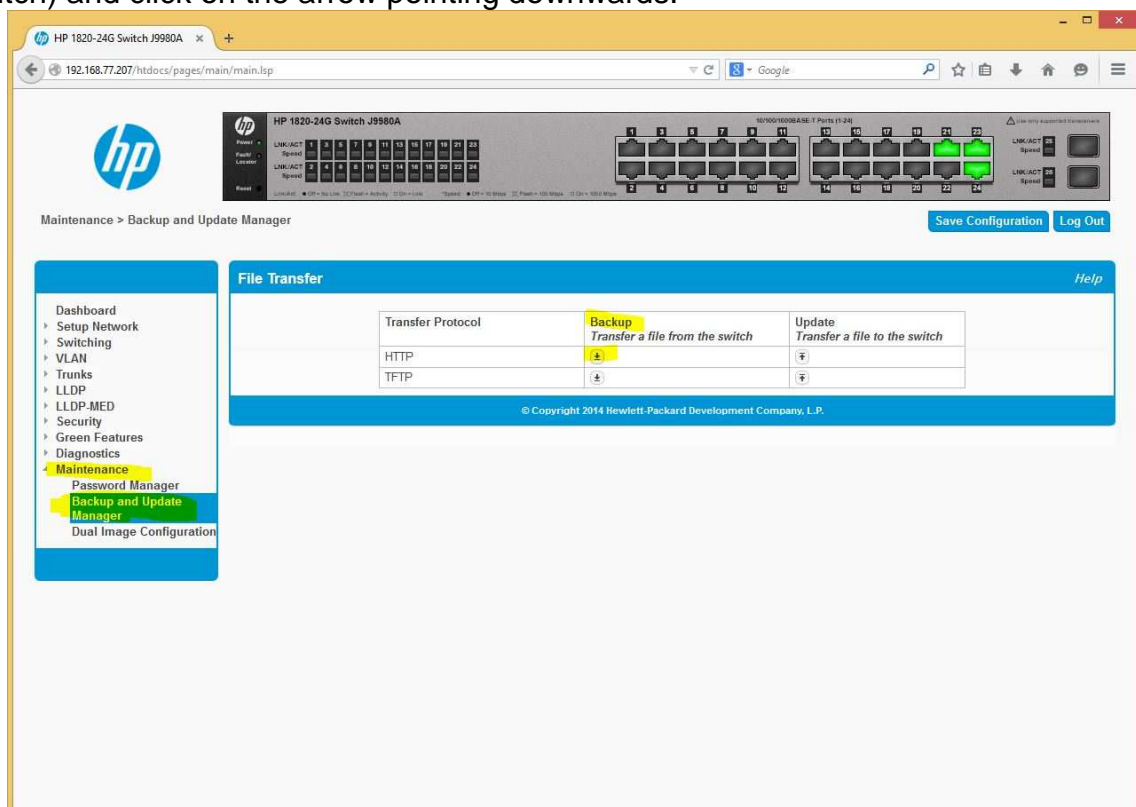
Apply Refresh Cancel

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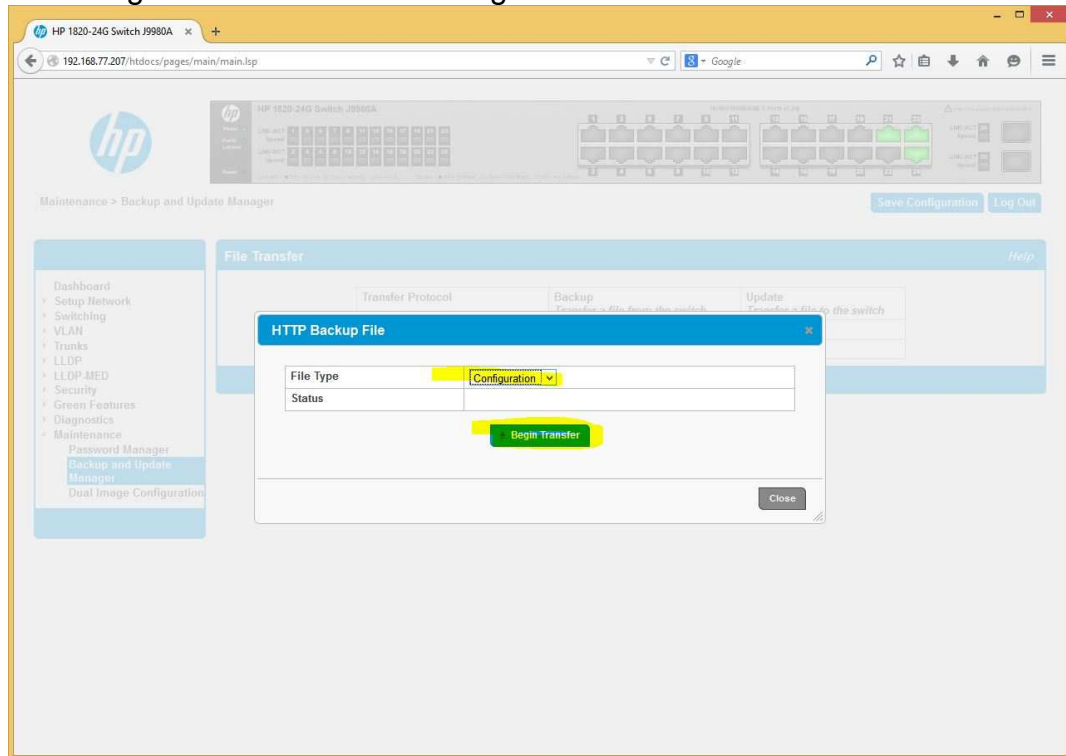
6. Go to the page “Switching”, “Spanning Tree”, “Configuration” and change settings to the values listed below and press “Apply”:
 - enable spanning tree, protocol version RSTP (802.1w)
 - bridge-priority for the **first switch (shelter) is 0 (zero)**
 - bridge-priority for the **second switch (tower) is 16.384**



7. Go to “Maintenance”, “Backup and Update manager”, backup, transfer a file from the switch) and click on the arrow pointing downwards:

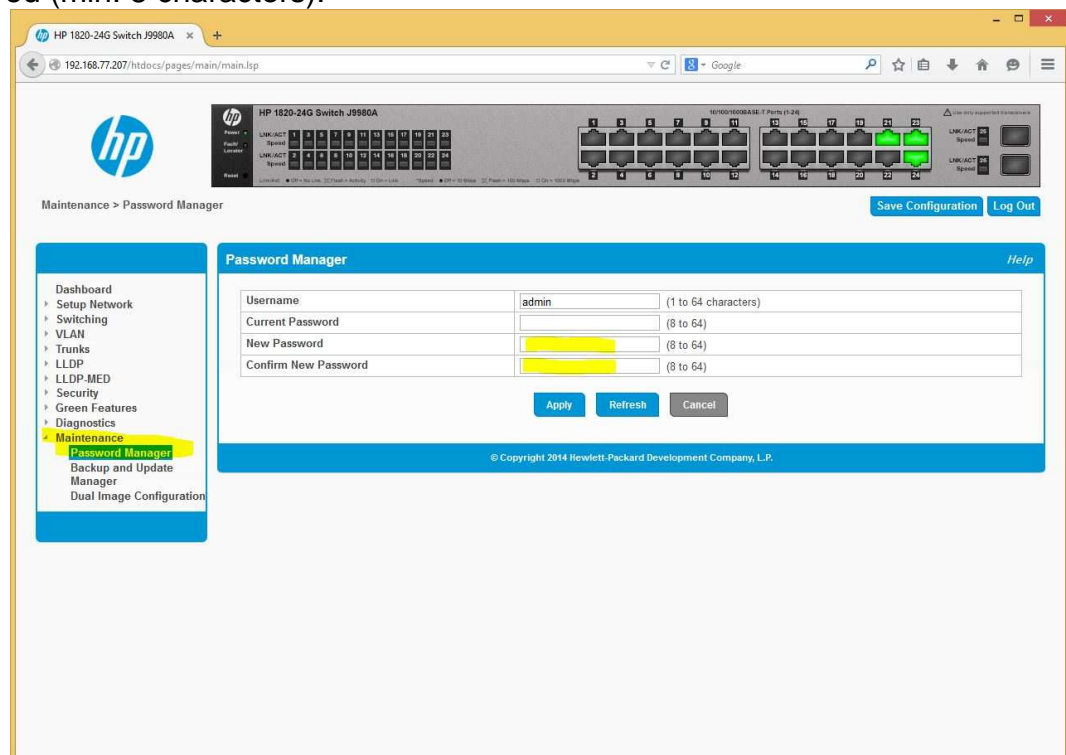


8. Choose “Configuration” and click on “Begin Transfer”



9. Save the file with the extension.cfg to disk and keep it in a safe environment.

10. Press “Close” and go to “Maintenance”, “Password Manager” and set a password as required (min. 8 characters):



11. Repeat all steps for second switch (tower) with different IP address.

Caution**Notice the different RSTP-Settings in step 6 for second switch.**

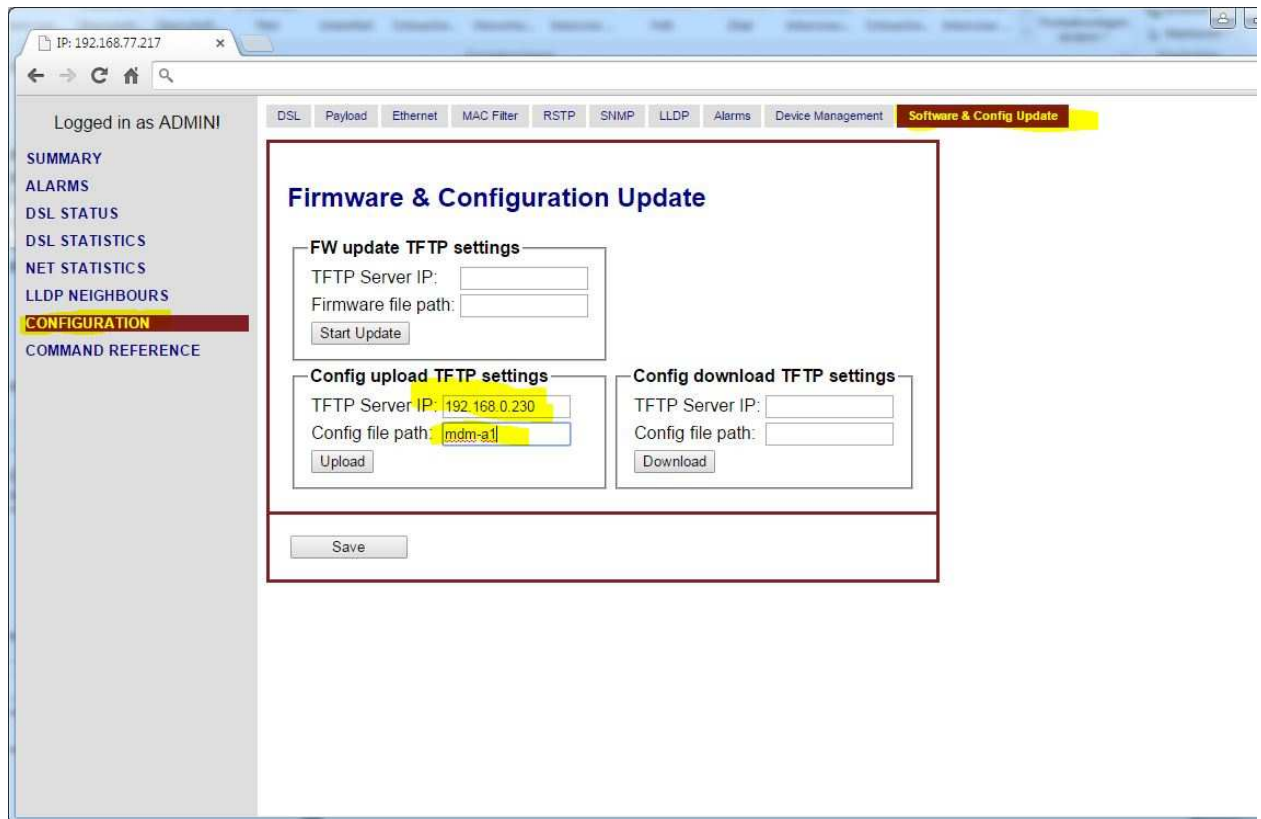
4.2 Modem Configuration

To configure the modems a PC with a network interface card (NIC) and a browser must be connected to the switch. The NIC should be configured according to the subnet of the switch/modems. The default IP address for new modems is 192.168.0.235.

The software TFTP-Server must be installed and running on the PC for the configuration of the modems with the configuration files.

Needed Files: mdm-a1, mdm-a2, mdm-b1, mdm-b2

1. Connect modem to switch with LAN1
2. Type the modem IP in your browser (new modem: 192.168.0.235)
3. Choose "Configuration" (on the left) and "Software & Configuration Update" (on top). Type IP address of the PC with TFTP-Server running and the name of the config-file. For example:
TFTP-Server IP : 192.168.0.230
Config file path: mdm-a1



4. Click on "Upload"
5. Don't forget to change the IP address of your PC after the upload. When the modem restarts it will have the IP address from the RHOTHETA-config-file.

6. Open your browser and connect to the modem. There are 2 different configurations coming from RHOTHETA:
 - modem mdm-a1 and mdm-b1 are configured as master-modems (dsl-parameter)
 - modem mdm-a2 and mdm-b2 are configured as slave-modems (dsl-parameter)
7. **Do not use the same config-file for different modems as the MAC address is included in the config-file!**
8. IP address table RHOTHETA config-files:
 - shelter: mdm-a1: 192.168.77.217 mdm-b1: 192.168.77.218
 - tower: mdm-a2: 192.168.77.208 mdm-b2: 192.168.77.209
9. Changing IP settings:
Open your browser and connect to modem, for example mdm-a1 192.168.77.217.
10. Change IP settings as required and click on "Save":

IP: 192.168.77.217

Logged in as ADMINI

SUMMARY
ALARMS
DSL STATUS
DSL STATISTICS
NET STATISTICS
LLDP NEIGHBOURS
CONFIGURATION
COMMAND REFERENCE

DSL Payload **Ethernet** MAC Filter RSTP SNMP LLDP Alarms Device Management Software & Config Update

Ethernet settings

Network settings

IP address: 192.168.77.217
Subnet mask: 255.255.255.0
Gateway: 192.168.77.1
MTU: 1500

VLAN & QoS
Settings

CoS settings
Settings

LAN settings

Port	Description	Speed	Flow control
LAN1	LAN1	AUTO	<input type="checkbox"/>
LAN2	LAN2	AUTO	<input type="checkbox"/>

Save

11. There will be a warning to apply again and confirm the changes:

The screenshot shows a web browser window with the address bar displaying 'IP: 192.168.77.217'. The page is titled 'Ethernet settings' and is part of a larger configuration interface. The left sidebar contains a menu with options: SUMMARY, ALARMS, DSL STATUS, DSL STATISTICS, NET STATISTICS, LLDP NEIGHBOURS, CONFIGURATION (highlighted), and COMMAND REFERENCE. The main content area has a tabbed interface with 'Ethernet' selected. Below the tabs, there are three sections: 'Network settings' with fields for IP address (192.168.77.217), Subnet mask (255.255.255.0), Gateway (192.168.77.1), and MTU (1500); 'VLAN & QoS' with a 'Settings' button; and 'CoS settings' with a 'Settings' button. At the bottom, there is a 'Save' button.

Logged in as ADMINI

DSL Payload **Ethernet** MAC Filter RSTP SNMP LLDP Alarms Device Management Software & Config Update

Ethernet settings

Network settings

IP address: 192.168.77.217
Subnet mask: 255.255.255.0
Gateway: 192.168.77.1
MTU: 1500

VLAN & QoS
Settings

CoS settings
Settings

LAN settings

Port	Description	Speed	Flow control
LAN1	LAN1	AUTO	<input type="checkbox"/>
LAN2	LAN2	AUTO	<input type="checkbox"/>

Save

12. There will be again a warning and you'll have to logon to the modem within the next 5 minutes to confirm, the settings. Otherwise the old settings will be restored:

A warning dialog box with a light blue background and a black border. The text inside reads: 'Configuration will be reapplied from startup configuration if you wouldn't connect to modem via telnet or WEB or remotely with 'CONNECT' in 5 minutes.' At the bottom right, there is an 'OK' button.

Configuration will be reapplied from startup configuration if you wouldn't connect to modem via telnet or WEB or remotely with 'CONNECT' in 5 minutes.

OK

13. After reconnect to the modem you have to confirm the configuration:

The screenshot shows a web browser window with the URL `192.168.77.221/goform/FormIndex`. The page is titled "DSL settings" and is part of a configuration interface. The left sidebar shows a menu with options: SUMMARY, ALARMS, DSL STATUS, DSL STATISTICS, NET STATISTICS, LLDP NEIGHBOURS, CONFIGURATION (highlighted), and COMMAND REFERENCE. The main content area has a tabbed interface with "DSL" selected. Below the tabs, there are settings for "DSL mode" (Active channels: 1, Multipair mode: OFF, AUTO Slave mode: ☐) and "DSL" configuration. The "DSL" configuration section includes fields for Description (DSL1), Master/Slave (Master), Baserate (Auto), PAM (AUTO), ANNEX (A/B), DSL sync (Int), Noise Margin (OFF dB (OFF/0..25)), and Line Attenuation thresholds (OFF dB (OFF/0..25)). At the bottom of the configuration area, there is a "Save" button, a red warning box stating "ACTIVE CONFIGURATION IS NOT CONFIRMED YET. CONFIRM CONFIGURATION AND IT WILL BE USED ON STARTUP", and a yellow "Confirm" button.

14. After confirming the changes everything is written to the startup-config:

The screenshot shows a confirmation dialog box with the text: "Current running configuration is confirmed and written to startup configuration in EEPROM". There is an "OK" button at the bottom right.

15. Don't forget to set a strong password and to back up the configuration after everything is configured!

5 Notes