# 2021-11-22 Mikrotik hAP and LHG program instructions KH7O

Preparation

1. Download PXE server and unzip in a new folder

2. Go to the unzipped folder and edit the **config. ini file**. Directly **under** the **[dhcp]** tag, add the following line: **rfc951=1** then save and close the file.(I loaded hAP and did not need to do this)

3. Download both of the appropriate Mikrotik factory and sysupgrade files from AREDN® website.

4. After Download rename the **elf** file to **rb.elf** and save sysupgrade .bin in same folder as the PXE server.

5. Set computer static 192.168.1.100 with a 255.255.255.0
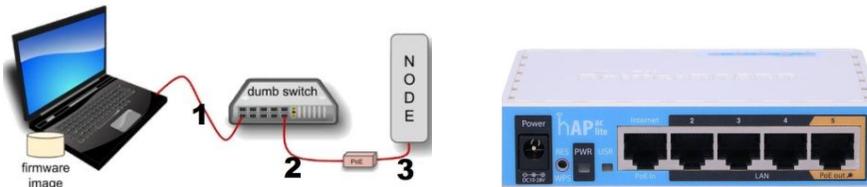
1. connect cable 3 from POE port to the node (if programming hAP then connect to port#1 on hAP)
2. **leave the device powered off**.

PXE Boot: Windows Procedure download PXE server to Windows computer.

1.Start the Tiny PXE server, "allow connection" for both private and public networks.

2.select your computer's Ethernet IP address from dropdown list Option 54 [DHCP Server], making sure to check <u>Bind IP.</u>

2.Under the "Boot File" section, select rb.elf , uncheck the checkbox for "<u>Filename if user-class = gPXE or iPXE".</u>

3. Click the Online button at the top of the Tiny PXE window.
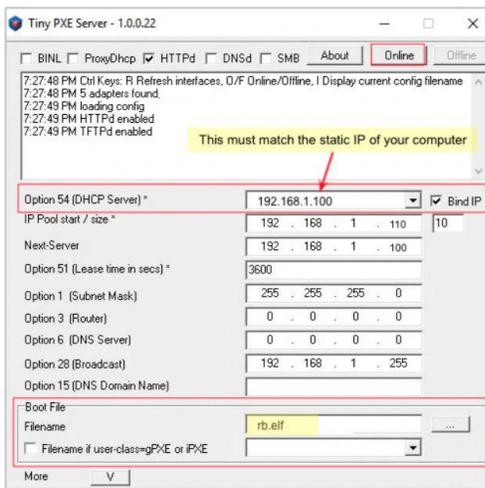
3. With the unit powered off, press and hold the reset button on the node while powering on the device. Continue holding the reset button until you see TFTPd: DoReadFile: rb.elf in the Tiny PXE log window.

4. Release the node's reset button and click the Offline button in Tiny PXE. You are finished using Tiny PXE when the elf image has been read by the node.

5. The node will now automatically reboot with the temporary AREDN® Administration image.

Install the sysupgrade Firmware Image

1. URL on browser type in localnode.localmesh
2. Attention: For the Mikrotik hAP ac lite only, disconnect the Ethernet cable from the WAN port (1) on the hAP and insert it into one of the LAN ports (2,3,4) before you proceed.

3. using browser open the node's Administration page http://192.168.1.1/ cgi-bin/admin (user = 'root', password = 'hsmm') and go to admin Firmware Update section. find the sysupgrade bin file you previously downloaded and click the Upload button takes 3 minutes

    4. The node will now automatically reboot with the new AREDN® firmware image ready to input data. Input call and other data. Save and reboot. After it reboots it will switch to 10.xxx.xxx.xxx Change computer to DHCP , reset power to switch, after boot up go to URL localnode.local.mesh