NetStream Diplo

Quick Link Configuration Guide

Date: 21-October-2017 | Rev. 1-0

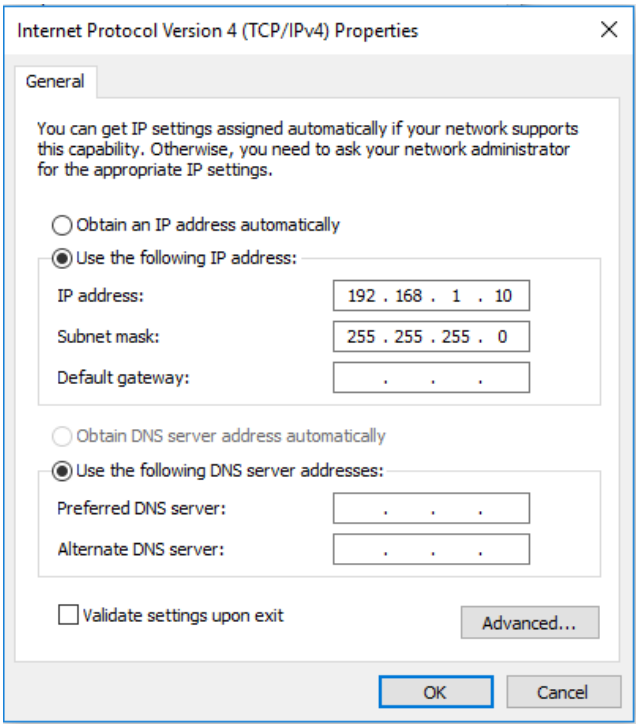
Note:

This technical guide is to help you with quick and easily configuration and link setup of NetStream Diplo. For detail configurations please read the user manual.

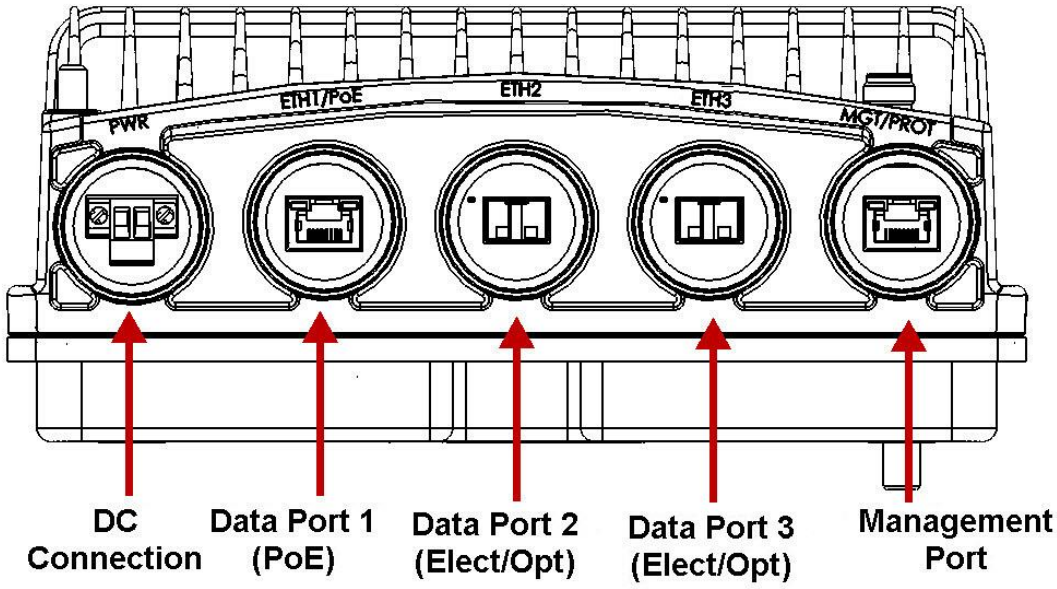
Contents

Setup PC/Laptop and Logon:

To obtain contact between the PC and the NetStream Diplo unit, it is necessary to configure an IP address on the PC within the same subnet as the NetStream Diplo unit. The default NetStream Diplo IP address is 192.168.1.1. Set the PC address to e.g. 192.168.1.10 and subnet mask to 255.255.255.0.



1. Locate the MNG port on the unit and connect your PC to this port with an Ethernet cable.



Important note:

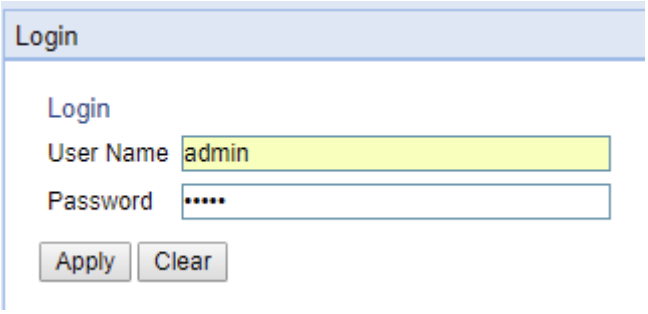
NetStream Diplo is a carrier class device and as required by carrier industry the unit is not by default manageable via Eth1 or Eth2 port.

The unit by default DOES NOT respond to PING on Eth1 and Eth2 ports. Ping is only possible via MNG port by default.

If you are unable to ping, please do check the firewall is not blocking this service. Try pinging another laptop using nothing but an Ethernet cable in between and once you could ping the other laptop then try pining the unit when connected to Management Port.

2. Open an Internet browser (Internet Explorer or Mozilla Firefox).

3. Enter the default IP address “192.168.1.1” in the Address Bar. The Login page

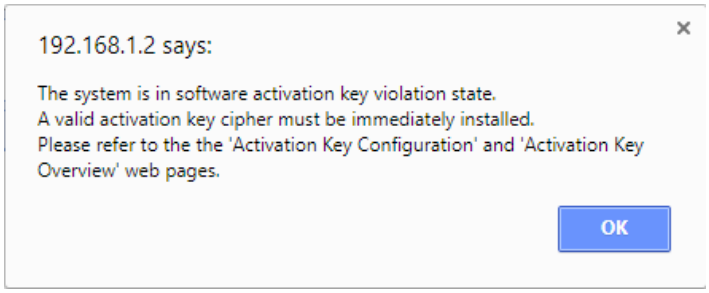


Note: If you are unable to ping, please do check the firewall is not blocking this service.

4. The default credentials are below:
   Username: admin
   Password : admin

Activating Demo Mode:

You will be notified of the activation key violation. This means that you need to enter the required activation keys (licenses) for your link parameters like capacity, MRMC, 2nd Core activation, XPIC etc.



For now you can activate demo mode. Demo mode is available, which enables all features for 60 days. When demo mode expires, the most recent valid activation key goes into effect. The 60-day period is only counted when the system is powered up. 10 days before demo mode expires, an alarm is raised indicating that demo mode is about to expire.

To activate demo mode:

1 - Select Platform > Activation Key > Activation Key Configuration. The Activation Key Configuration page opens.

2 - In the Demo admin field, select Enable.

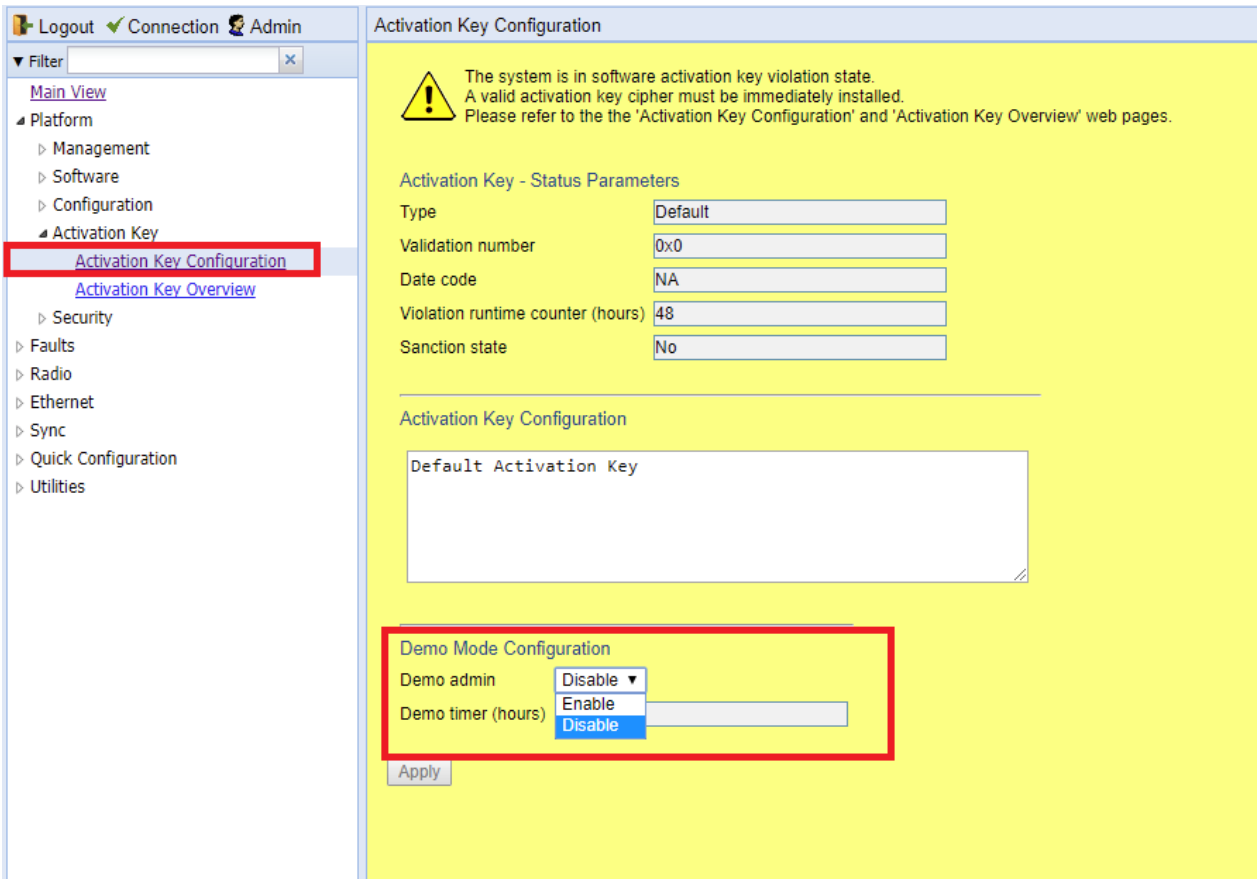
Important note:

Each unit has a limited number of hours for Demo licenses.

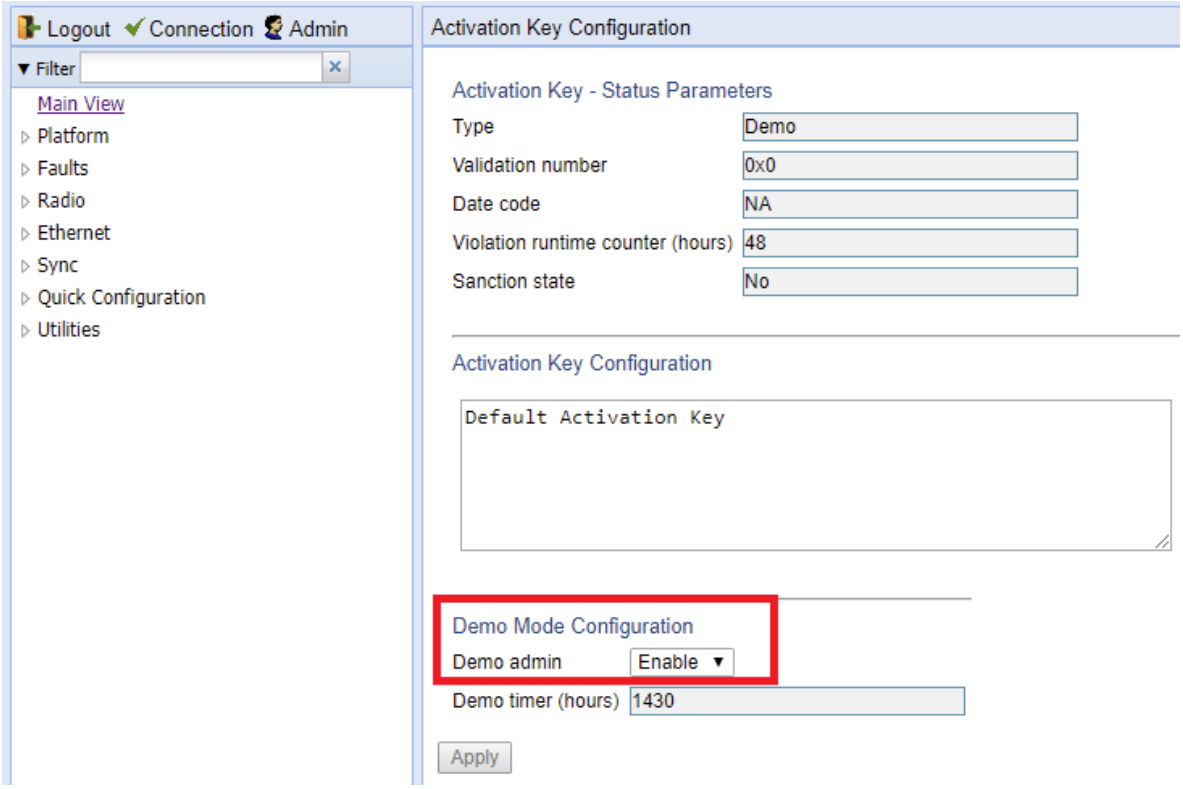
The Demo hours are calculated based the number of hours the unit has been powered on while the demo mode is enabled.

Please make sure the number of hours of demo activation are spent when you are actually using the unit for demonstration.

You can disable the demo mode when you are not using the features controlled by the demo mode and you can enable demo mode again at any time.



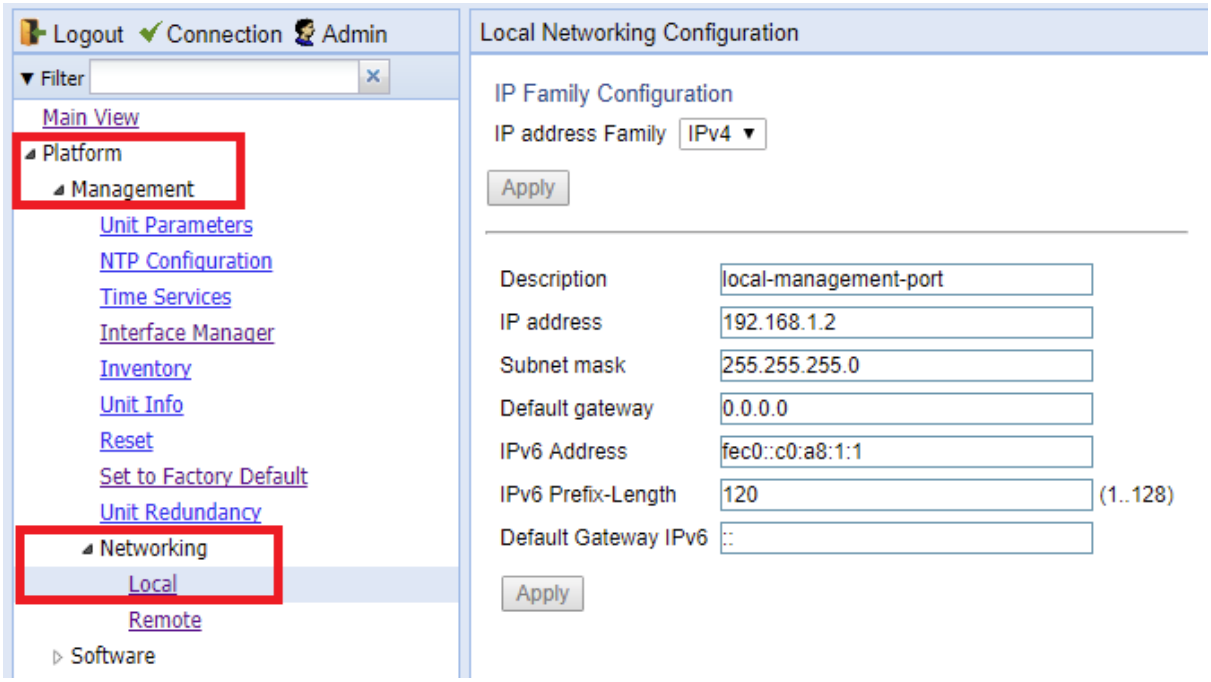
3 Click Apply.



The Demo timer field displays the number of hours that remain before demo mode expires.

Changing the Management IP Address:

1. Select Platform > Management > Networking > Local. The Local Networking Configuration page opens.



2. Optionally, in the Description field, enter descriptive information about the unit.
3. In the IP address field, enter an IP address for the unit. You can enter the address in IPv4 format in this field, and/or in IPv6 format in the IPv6 Address field. The unit will receive communications whether they are sent to its IPv4 address or its IPv6 address.
4. In the Subnet mask field, enter the subnet mask.
5. Optionally, in the Default gateway field, enter the default gateway address.
6. Click **Apply**.

Important note:

The Management IP Address is the only way the unit can be managed if the inbound management is not activated or a VALN switch with management VLAN is not available at site.

Please make sure you note down the management IP address you entered and make sure another colleague in your organization knows about it.

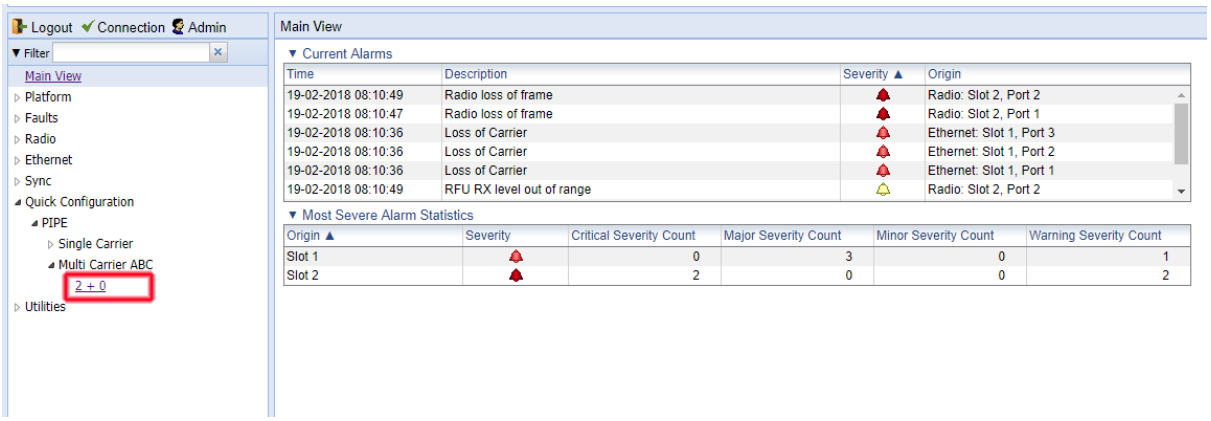
If management IP address is lost the recovery process should be taken which involves use of a special cable. For details please contact Netronics Support.

Setting up a Quick PIPE:

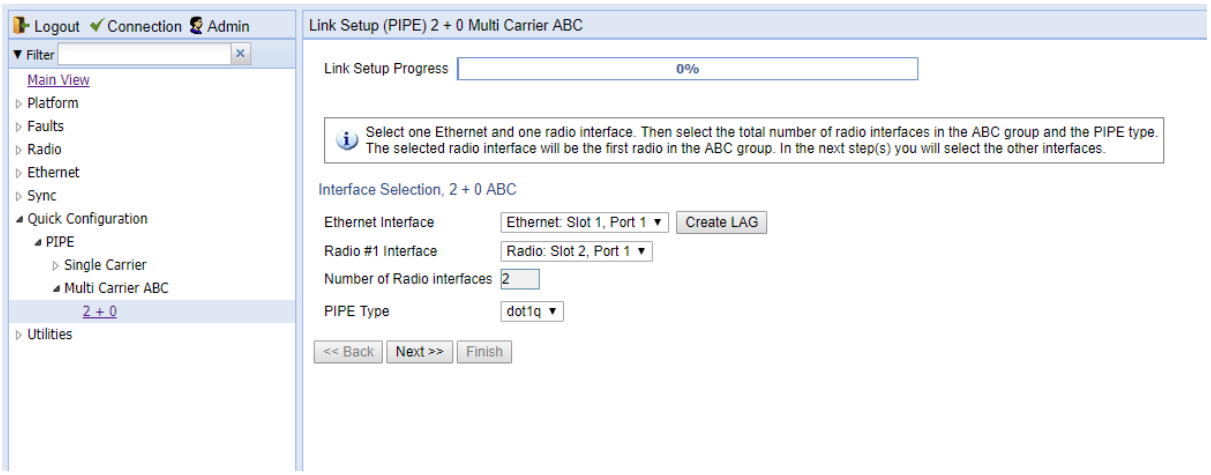
Depending on your configuration type and device type, you can select the configuration. For this guide, we will use a simple configuration that is Single carrier 1+0.

To configure a 1+0 link using the Quick Configuration wizard:

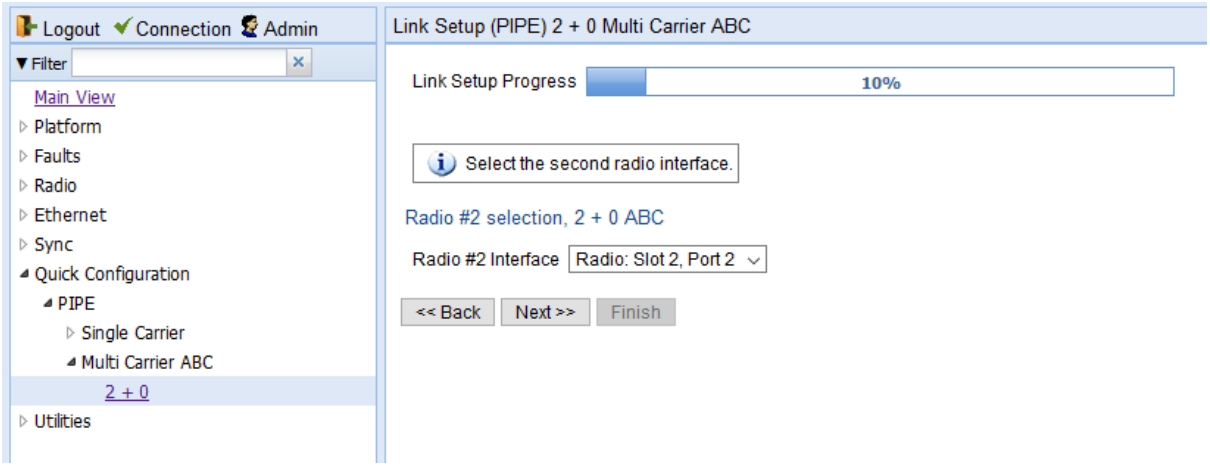
1. Select Quick Configuration > PIPE > Multi Carrier ABC > 2+0.



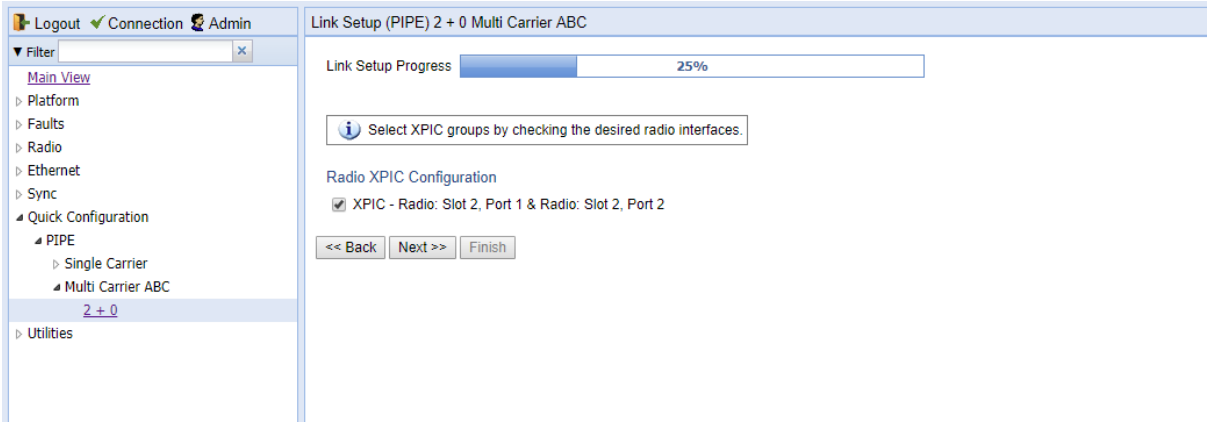
Page 1 of the "Link Setup (PIPE) 2 + 0 Multi Carrier ABC" wizard opens.



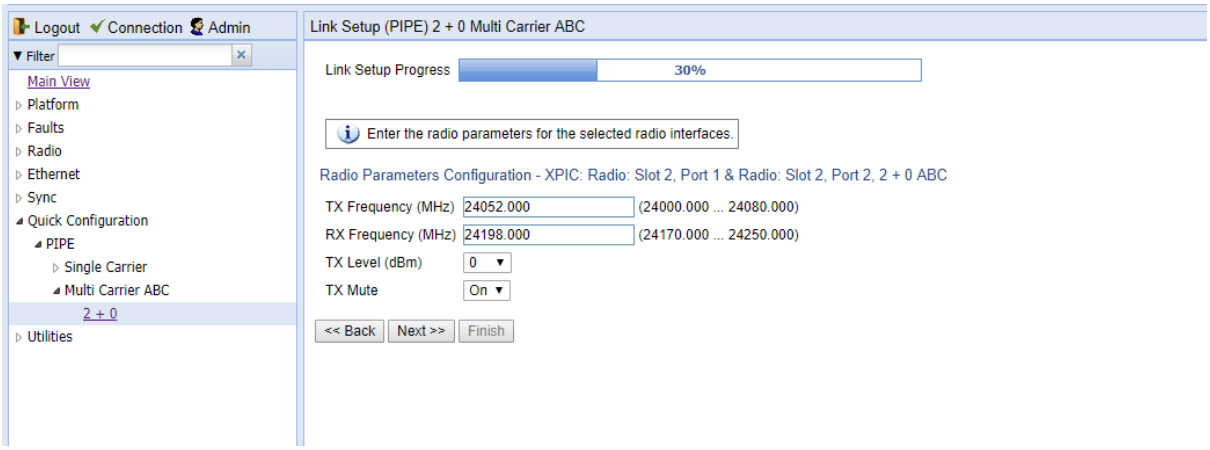
2. In the Radio Interface field, select a Radio interface. "Radio Slot 2, Port 1" in this case.
3. In PIPE Type select dot1q.
4. Click **Next**.



5. Select the second radio chain. “Radio Slot 2, Port 1” in this case.
6. Click **Next**.



7. Check the XPIC check box.
8. Click **Next**.



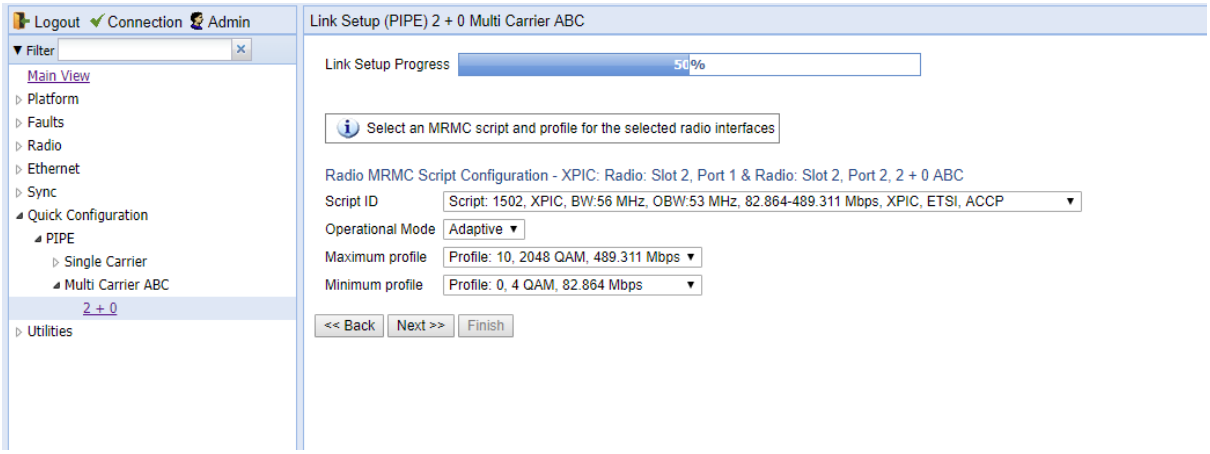
9. In the **TX Frequency (MHz)** field, set the transmission radio frequency in MHz. *Assign this frequency as the RX Frequency on the remote radio.*

10. In the **RX Frequency (MHz)** field, set the received radio frequency in MHz. *Assign this frequency as the TX Frequency on the remote radio.*

11. In the **TX Level (dBm)** field, enter the desired TX signal level (TSL). The range of values depends on the frequency and Product type.

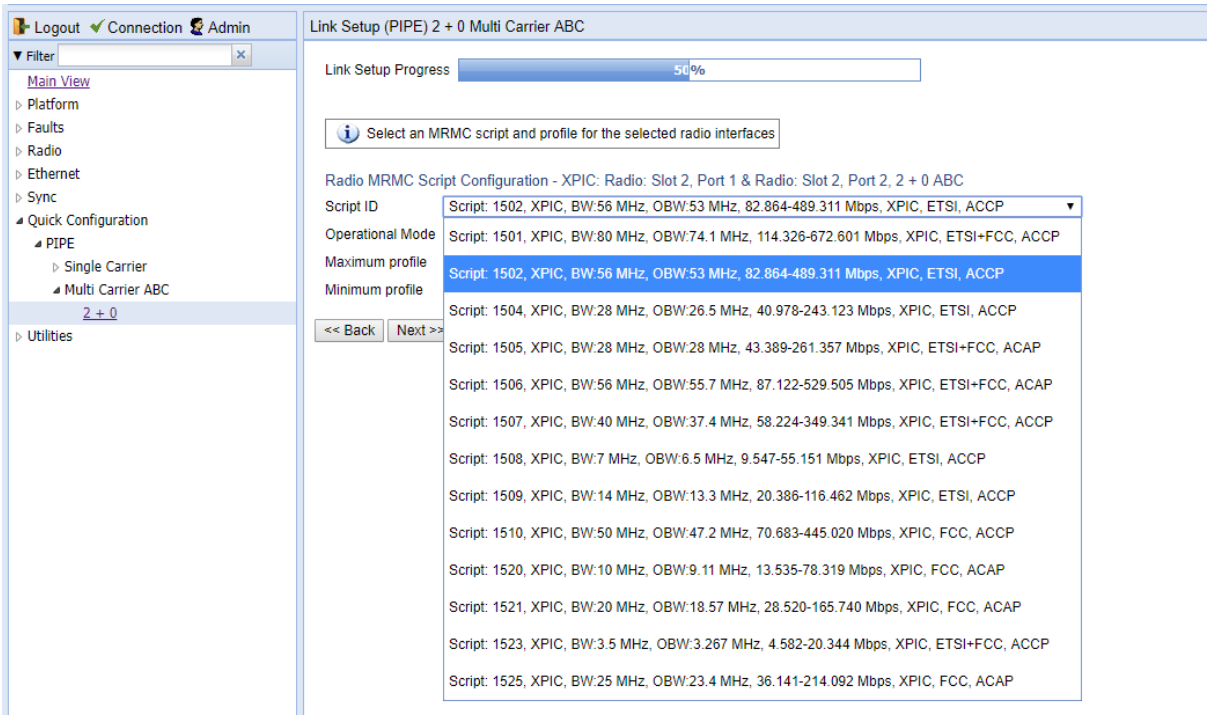
12. To mute the TX output of the RFU, select **On** in the **TX mute** field. To unmute the TX output of the RFU, select **Off**.

13. Click **Next**.



14. In the **Script ID** field, select the MRMC script you want to assign to the radio.

    Please note the choice of script specifies the Channel bandwidth and so it will affect the capacity achieved. For maximum capacity choose the script with maximum channel size. If you operate the unit in a network for which you have specific frequency license, then you will have to follow the requirements of your frequency license.



15. In the **Operational Mode** field, select the ACM mode: **Adaptive**.

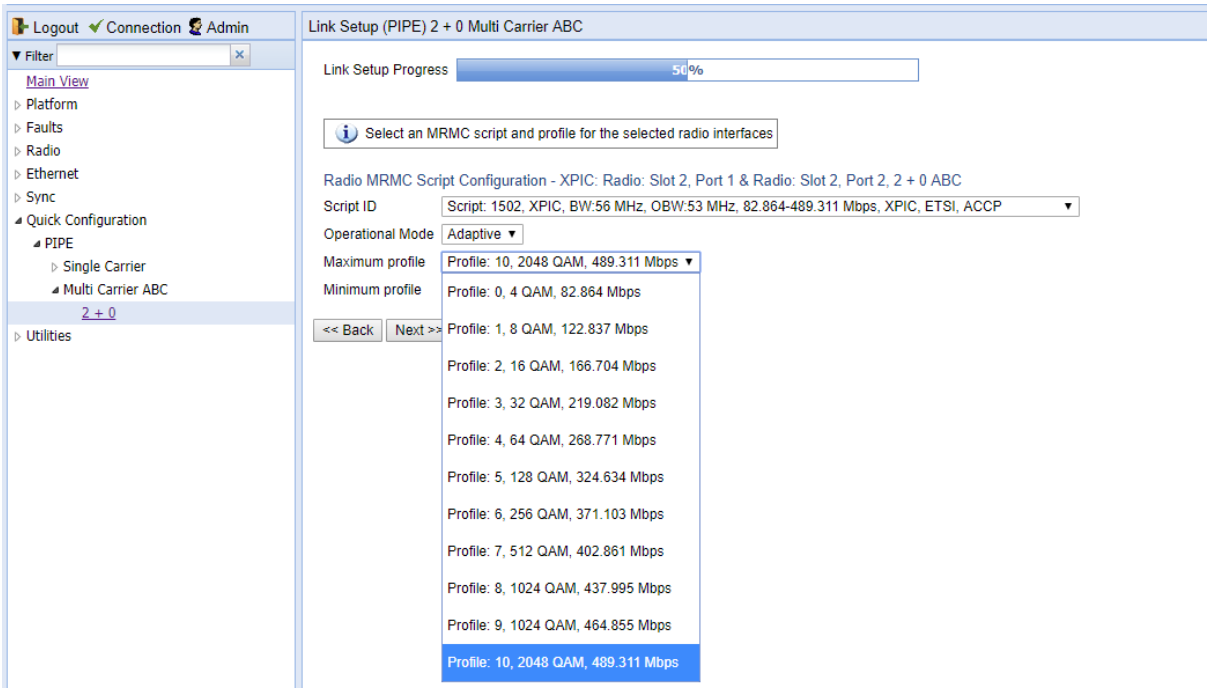
Note:

In most cases using Adaptive ACM mode provides maximum capacity and maximum stability of the link.
In special cases specified by a link design you may limit the radio to fixed mode to make sure the link works only if it can provide the required capacity and will disconnect if the environmental radio conditions are not suitable for the specified capacity. In most case you will not chose this mode.

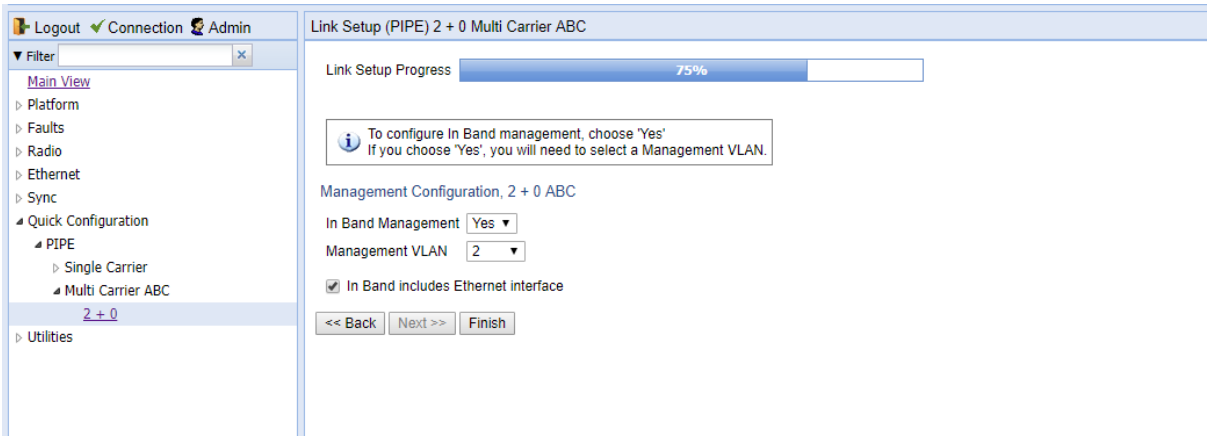
16. Select the **Maximum and Minimum profile**.

Note:

In order to achieve maximum flexibility of the link for environmental radio conditions choose the highest modulation as Maximum and use the lowest modulation as minimum.



17. Click **Finish**.



18. In the **In Band Management** field, select **Yes** to configure in-band management. If you select **Yes**, the **Management VLAN** field appears.

Note:

Selecting **Yes** is required if you want to manage the unit using the Eth1 and Eth2 ports or from a remote site in a network and along with the actual link traffic.
Select **No** only if you want to limit the management of unit to the physical connect only to the Management port of the unit.

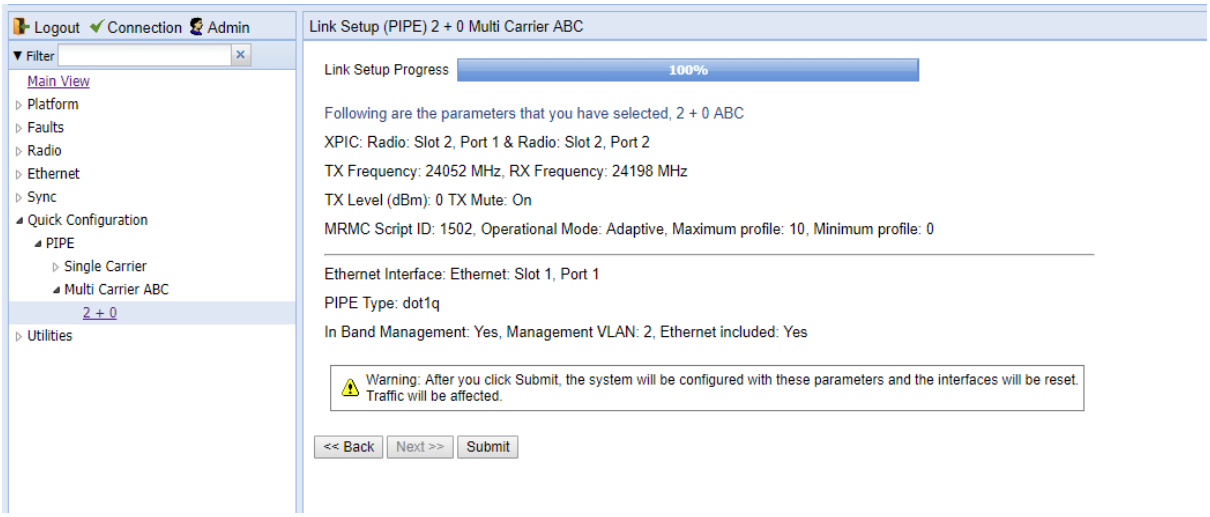
19. If you selected **Yes** in the **In Band Management** field, select the management VLAN in the **Management VLAN** field.

Note:

After selecting the In Band management and selecting the VLAN, the unit can be managed only if it is connected to a VLAN aware switch with the VLAN defined on the port to which the radio is connected.
This will not affect possibility of managing the unit via Management port. The unit will still be manageable via Management port.

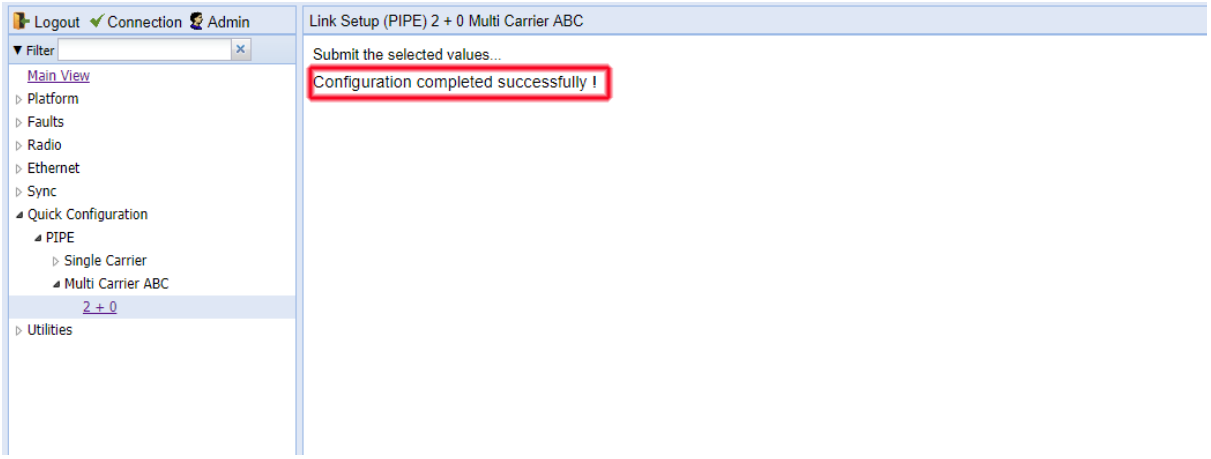
20. If you want to use the Ethernet interface as well as the radio interface for in-band management, select **In Band includes Ethernet interface**.

21. Click **Finish**.



This page displays the parameters you have selected for the link.

22. Click **Submit.**

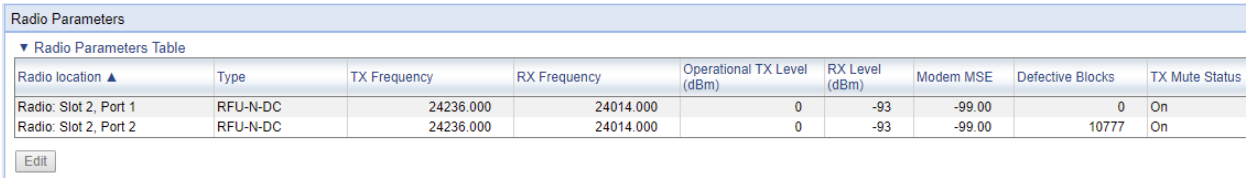


You will see message confirming successful completion of the wizard.

Repeat this on the second unit while SWAPPING the Tx and Rx frequencies.

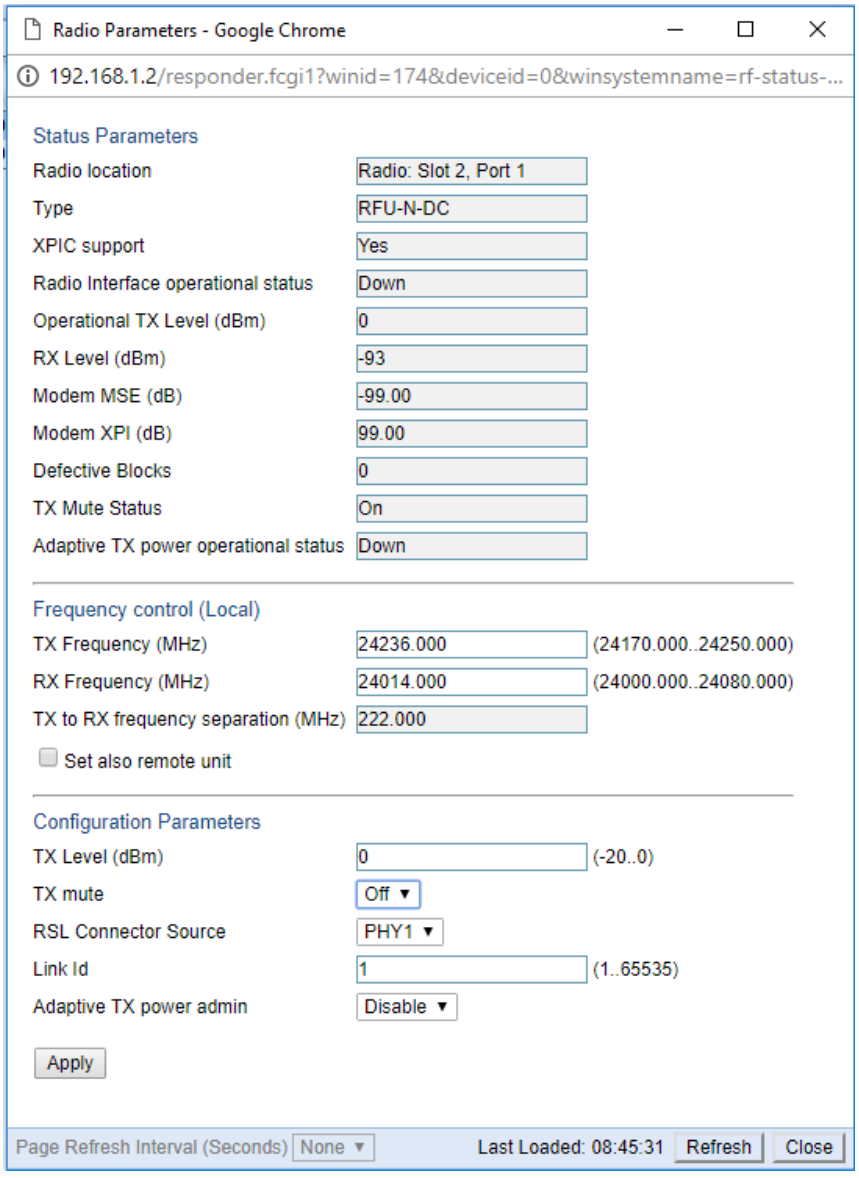
Unmuting the Radios:

At this point the link setup is done but link is not established. This is because we have muted the radios.

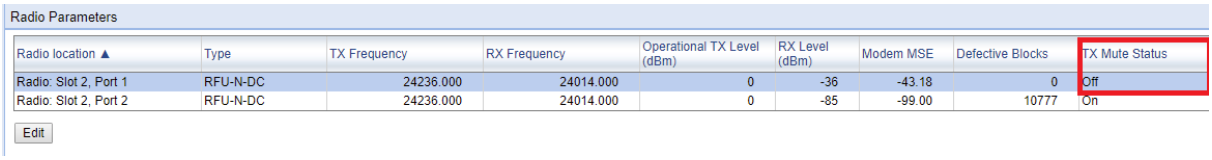


To unmute the radios so that the radio are able to transmit, follow the steps below.

1. Click on the Radio Slot2, Port 1. Once highlighted, click on **Edit**.
2. A window will open up. Select the **Tx Mute** to **Off**.



3. Click on apply and the Radio Mute status will be update to Off. In this mode the radio will start transmitting. Do this for both side radios of the link.


Radio Parameters

Radio location ▲	Type	TX Frequency	RX Frequency	Operational TX Level (dBm)	RX Level (dBm)	Modem MSE	Defective Blocks	TX Mute Status
Radio: Slot 2, Port 1	RFU-N-DC	24236.000	24014.000	0	-36	-43.18	0	Off
Radio: Slot 2, Port 2	RFU-N-DC	24236.000	24014.000	0	-85	-99.00	10777	On

Edit

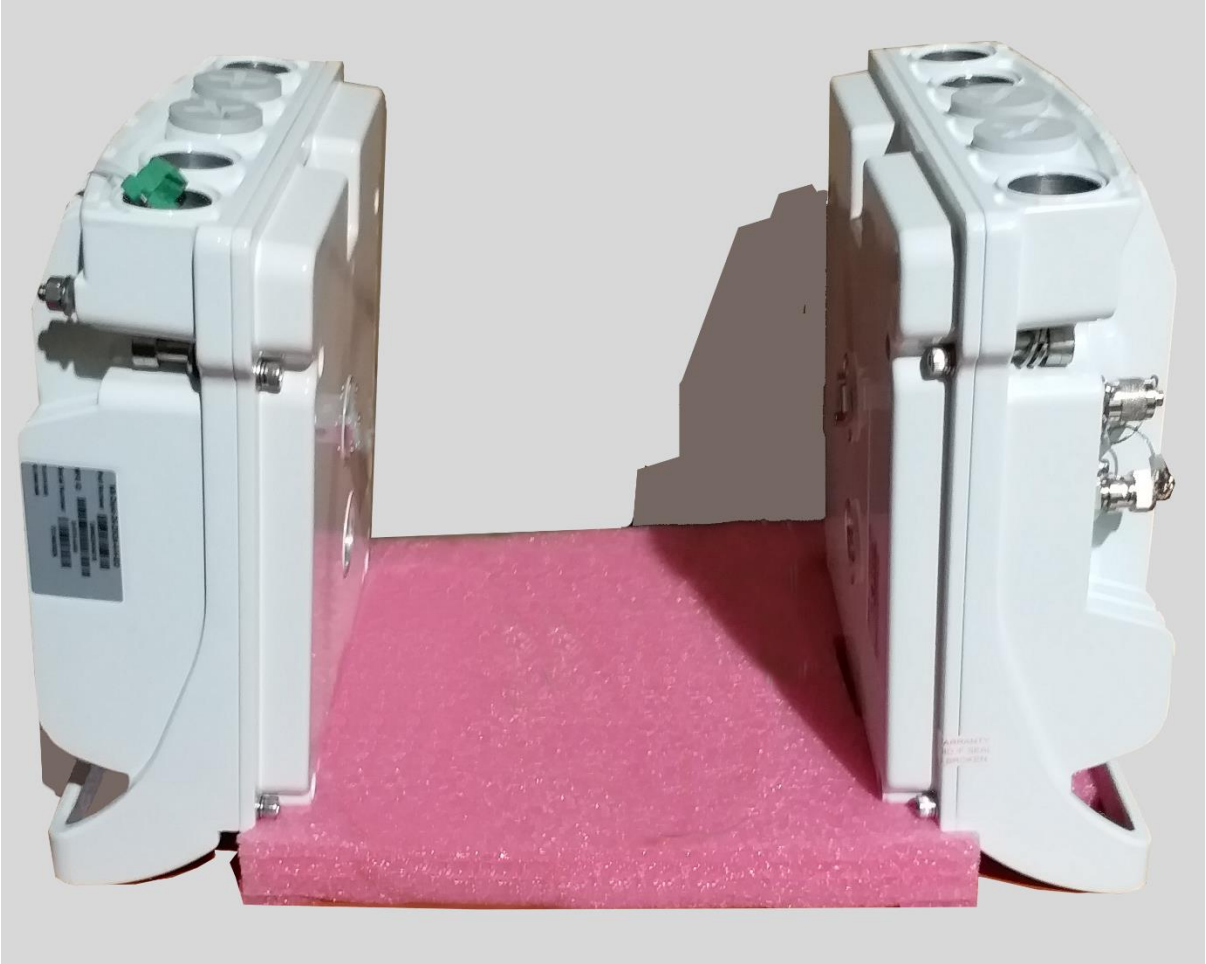
Your radio is now transmitting.

4. Repeat Step 1-3 with Radio Slot2, **Port 2.**

Repeat this process on the second unit by choosing same exact parameters and SWAPPING the TX and RX frequencies.

If you finished the steps on the second radio, at this stage you should be able to see Rx Level of -50 dbm or more on each radio and the link should get established on both radio chains.

After configuring the second unit position the units vertically using a part of the foam coming in the units package as shown in the picture below.



At this stage you should be able to see the received signal of each unit on the other unit.

Please note this setup is ideal for bench testing the units while the radiator fins are vertical and the ports are available on the top side for testing. The unit can be operated at proper temperature for long time.

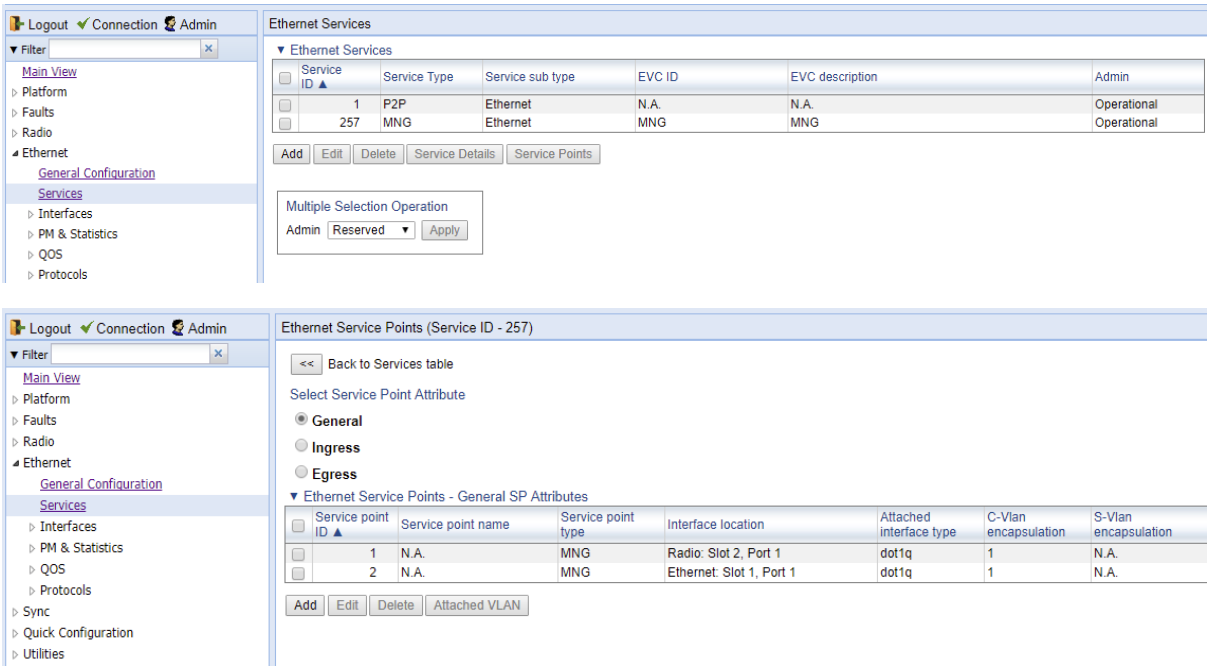
Please note this setup is not ideal for testing link capacity as the radio conditions are not what they should be in an actual link installed in the filed on the antenna.

For more detailed information on installation of the link please refer to **NetStream Diplo Installation Guide** available on Netronics knowledge base section of the website.

If you need further assistance, please contact us on support@netronics-networks.com

Enabling Management via Ethernet Port:

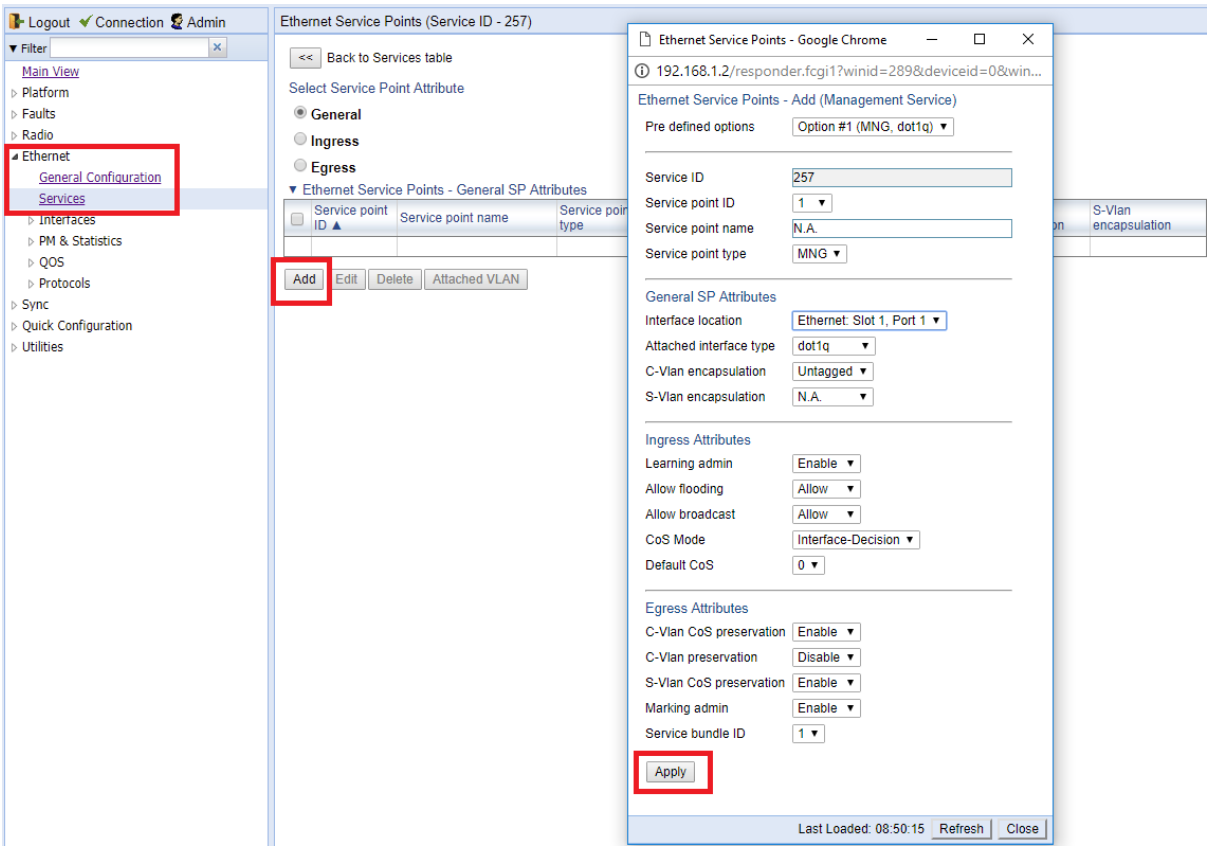
At this point your link is established. Now if you connect your LAN cable to the Ethernet port from laptop, you might not be able to ping the radio. This is because Management VLAN 1 is set on the radio.



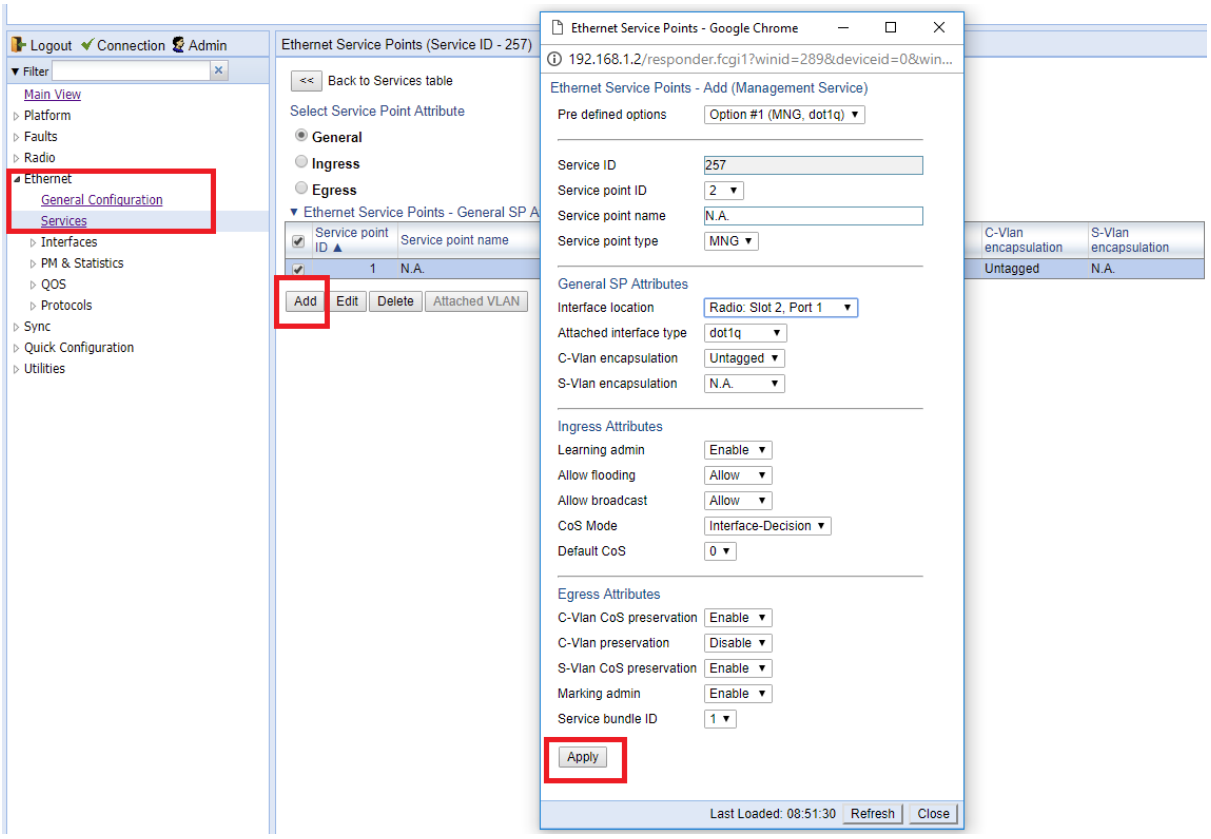
If you wish to continue like this, then set the PC/laptop NIC to VLAN 1 or use a VLAN aware switch with VLAN 1 activated on the port connected to the unit. You will be able to ping the radio. Or come from a switch port which is set to VLAN 1.

If you do not wish to set the management VLAN, then you will need to remove the Management service and set a new management service which Untagged C-VLAN.

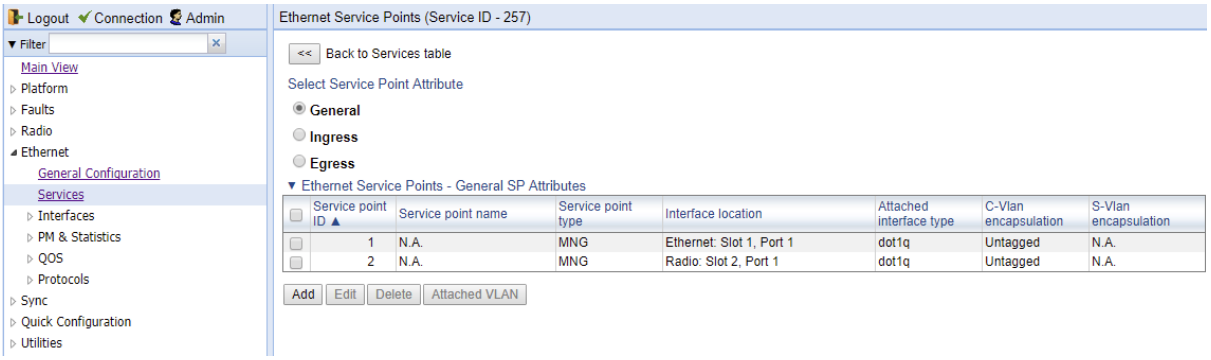
1. Set a service point for Management for Ethernet interface.



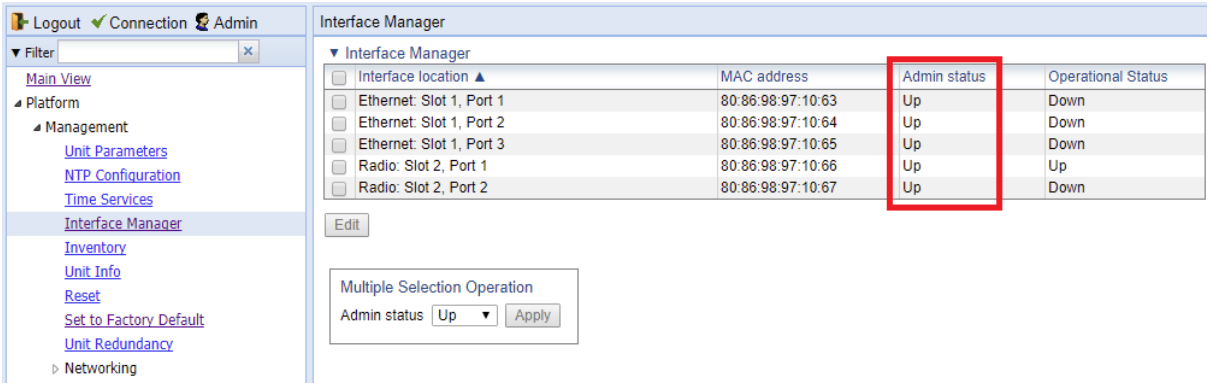
2. Set a service point for Management for Radio interface.



3. The service points status will be as below.



4. Make sure the Ethernet ports are operational. You check and configure them in Interface Manager.



Now if you connect the radio to your laptop via Ethernet/PoE port, you will be able to ping the radio and the remote radio.