NetStream Primo/Diplo G2

Initial Installation Guide

Date: 21-October-2020 | Rev. 2-0

Note:

This technical guide is to help you with initial configuration and link setup of NetStream Primo/Diplo G2. For detail configurations please read the user manual.

Contents

Power Connection Settings

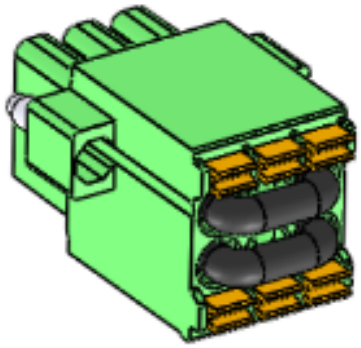
There are two options for powering NetStream Primo/Diplo G2 devices.

a. Power-over-Ethernet (PoE). If choosing PoE, then the PoE injector can be powered by AC or DC.
b. Direct DC supply - 48 V

Power Connection Settings - PoE

Please do the following steps to power the NetStream Primo/Diplo G2 devices using Power-over-Ethernet (44-58VDC). The PoE injector needs to be powered by an AC or DC.

- Prior to installation, remove the gland cap over the gland labeled "**PWR**" and make sure both the jumpers are connected as shown in the below image.



Important note:

In order to have the device powered using PoE, Its mandatory to place the DC connector in the radio with jumper connections as shown in the above picture.

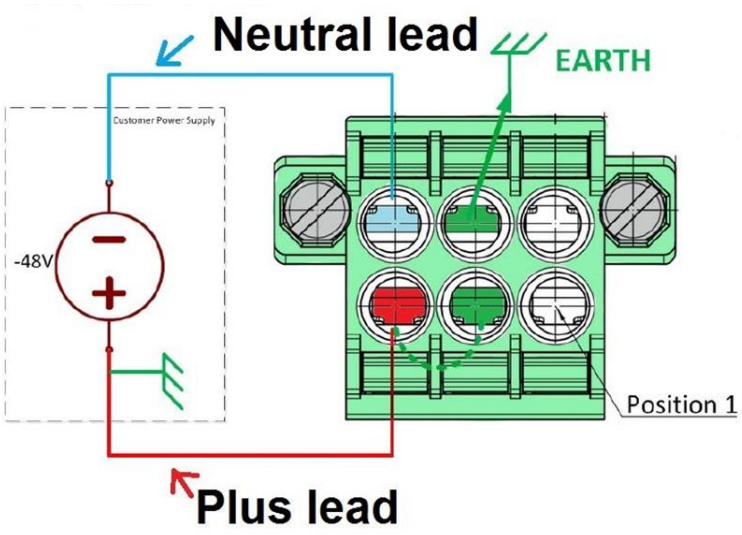
If it's not connected and placed properly, then the device will not power up through POE.

- Power on the **PoE** injector using an AC or DC Supply.
- Use **GE#1** port to power the radio using PoE Injector.
  Use the RJ45 cable and connect the POE injector "Input" Port to Power the Radio (GE#1) and "Output" to the PC using RJ45 cable.
- Once the connections are completed start pinging the radio. Radio will take approximately 3-4 minutes to get active and accessible.

Power Connection Settings – DC

Here are the steps to power NetStream Primo/Diplo G2 using 48 V DC power supply.

- Prior to installation, remove the gland cap over the gland labeled "**PWR"** and carefully depress the orange tabs to remove each jumper.
- Gently slide wires into the connector as per the -48 V connection diagram below.



- Once the wires are pushed in, gently pull on them to ensure they are correctly located and locked.
- Once the connections are completed power on the radio and start the ping. Radio will take approximately 3-4 minutes to get active and accessible.

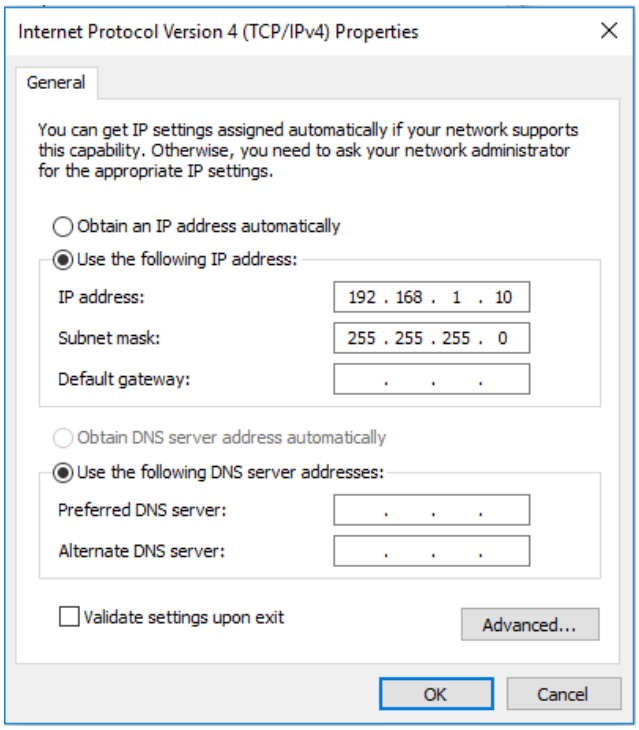
Note: It is required, that the "**+**" and **"-"**pins are always connected, otherwise the unit won't be powered.

Caution

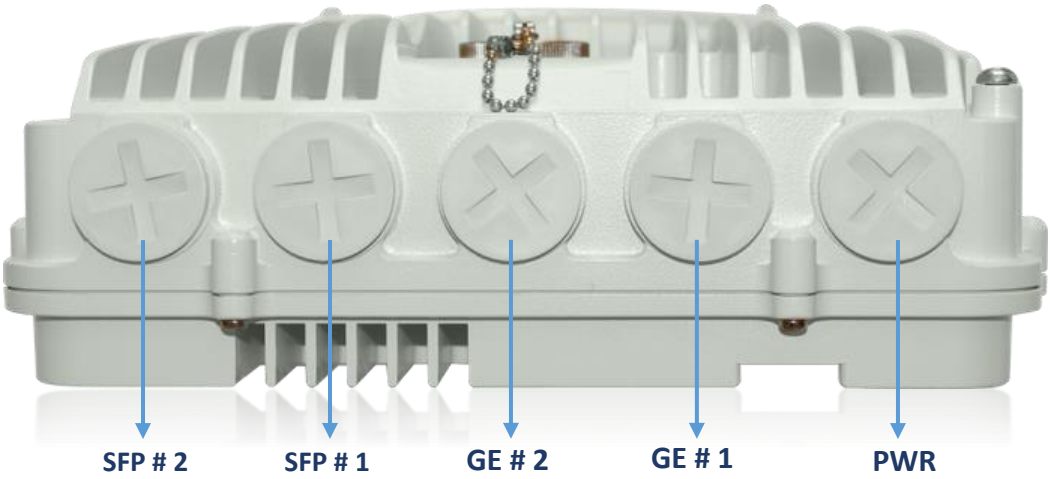
If the other end of the cable is physically connected to the DC supply, ensure that the DC power is OFF to prevent any short or electric shock during assembly.

Setup PC/Laptop and Logon:

To obtain contact between the PC and the NetStream Primo/Diplo G2 unit, it is necessary to configure an IP address on the PC within the same subnet as the NetStream Primo/Diplo G2 unit. The default NetStream Diplo G2 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.



2. Locate the **GE1 port** on the unit and connect your PC to this port with an Ethernet cable. There could two possible scenarios for this.
    - If you are using PoE injector use "**Input**" port to power the radio and "**Output**" of the PoE injector to the PC using Ethernet cable .We can also use available **"GE2"** port to connect device to the PC.
    - If you use direct DC power supply, Use available **GE1** port to connect your PC with an Ethernet cable.



a. **SFP Port #2** - SFP+ port, supporting 1/ 2.5/ 10 Gbps for optical or electrical connection. Reset button supporting soft-reset and reset to factory defaults.
b. **SFP Port #1** - SFP+ port, supporting 1/ 2.5/ 10 Gbps for optical or electrical connection.
c. **GE Port #2** - RJ45 GE electrical port for electrical connection.
d. **GE Port #1** - PoE, RJ45 GE electrical port for electrical connection, including PoE connection.
e. **PWR -** DC connector port, to connect DC or for PoE jumper connection.

3. Open an Internet browser.

4. Enter the default IP address "**192.168.1.1**" in the address Bar. The login screen open as in the below image.

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

5. The default credentials are below:

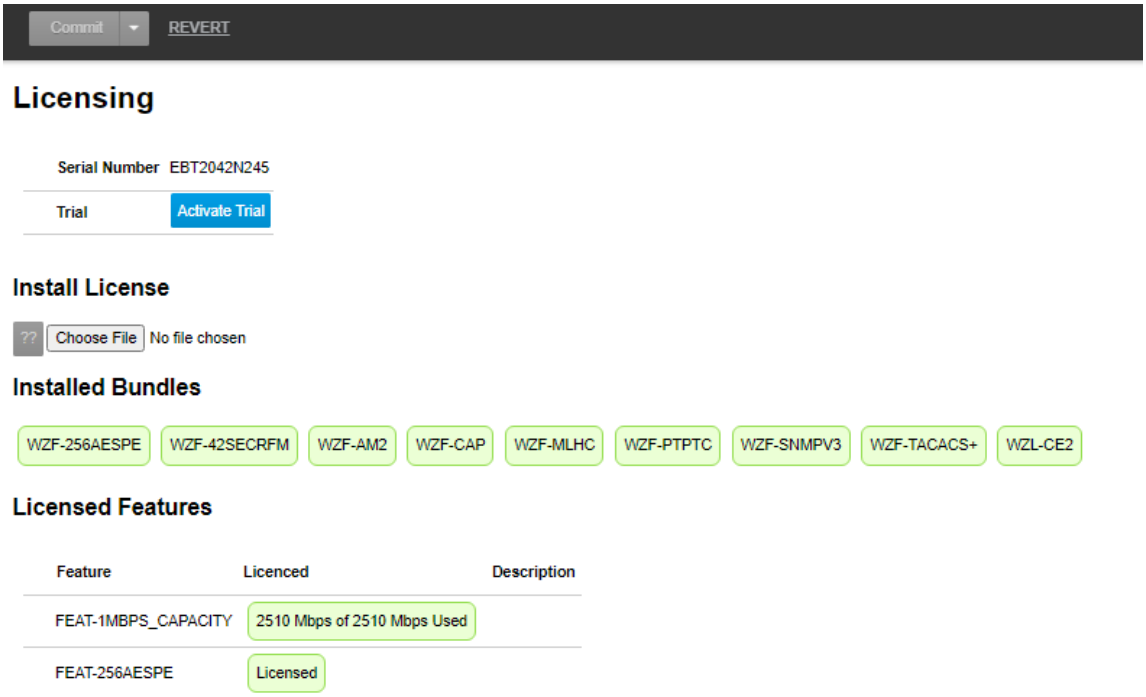
   Username: **admin**
   Password: **admin**

Note: If you make any changes to the device Configuration then you must click "**commit"** to execute and validating the changes.

Activating Trial Mode:

The licensing screen is used view the currently licensed features and bundles, Installing feature licenses from a file and Activating the trial license, Here are the steps to configure the trail licenses.

1. On the left menu bar, Navigate to **Admin > Licensing** to access the screen, licensing Window appears.



2. If the trial license has not yet been activated on the radio, an **Activate Trial** button will appear under the Trial status row.
3. Now click the **Activate Trial** button and Click **Commit**, and now the 60 day operational trial will be activated.

Important note:

The Trail License can used for 60 operational days. Once you finish the 60 days period, then the link will stop functioning.

To start the operations again, you need to load and activate the required feature licenses using the license file received from the Netronics sales.

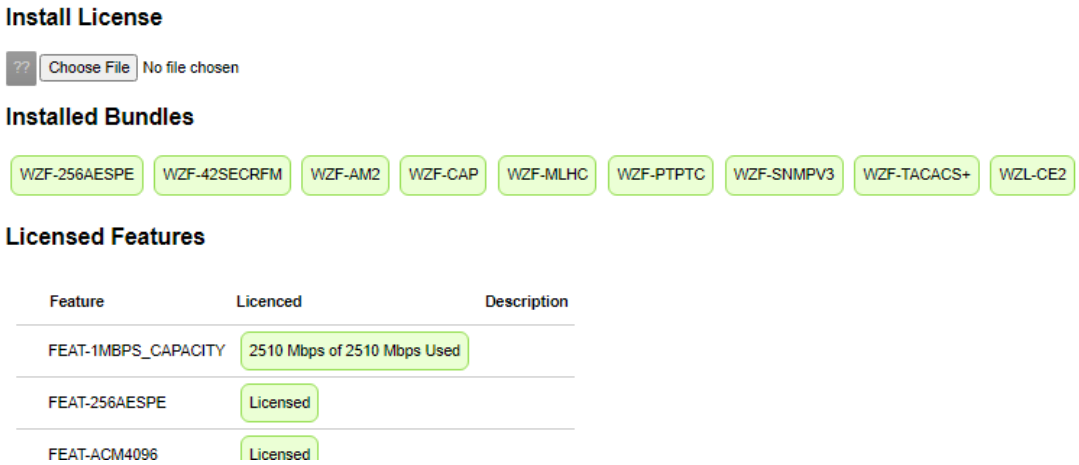
The remaining time in the trial for each licensable feature is shown in the licensed column under the Licensed Features section.

If a capacity license (FEAT-NS-1MBPS_CAPACITY) is already loaded then the user cannot use the trial max capacity.

Installing the License

In case your device comes without the preconfigured licenses and you receive a license file from Netronics sales, here are the steps to install feature licenses from a license file.

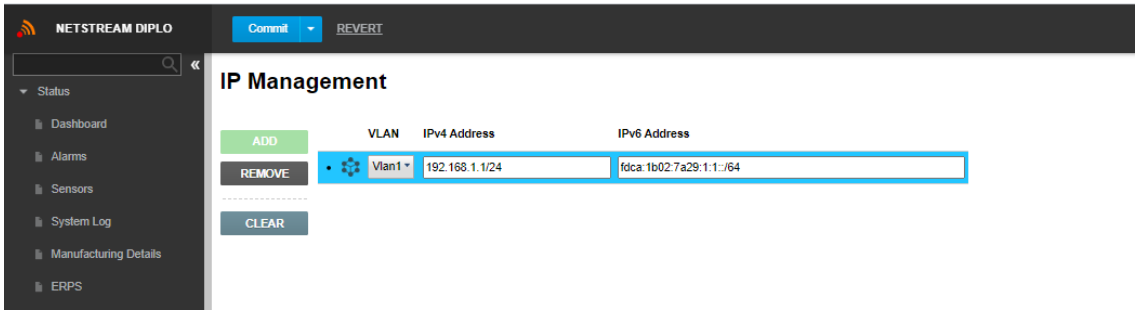
1. On the left menu bar, Navigate **to Admin > Licensing** to access the screen, Go to "**Install License**", Click on "**Choose file**" and browse and select the license file.



2. Click **Upload License** to upload the license file. The feature licenses contained in that file will be installed automatically, once the upload is completed, and then the license features will be available for use.

Changing the Management IP Address:

1. On the left menu bar, click **System Configuration > Management IP** and the **IP Management** screen opens.



2. In the IP address field, enter an IP address for the unit along with subnet i.e. **IP address/Subnet.** You can enter the address in IPv4 format in this field i.e. "**192.168.1.1/24**", and/or in IPv6 format in the IPv6 Address field.
   For example, if your device IP address: 192.168.1.1 and Subnet Mask: 255.255.255.0, you need to enter the IP Address as 192.168.1.1/24 .**It's recommended to take a screenshot of this using Snipping tool.**
   Note: The IP addresses may only be configured on VLAN interfaces, by default all ports untagged member of VLAN 1 and configured as "access".
3. Click the **Commit** button. Now you can Login to the device with the new IP address.

Important note:

The management IP can be different from the traffic IP. The NetStream Primo/Diplo G2 is Layer 2 device and it works as a bridge.

NetStream Primo/Diplo G2 can pass the traffic with an IP in a subnet different from the management subnet.

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 or if the password is lost then the device need to be **send back to Netronics for the recovery process** .For details please contact Netronics Support**.**

Setting up Radios:

Radio is a logical interface that can have one or two carriers connected. Carriers are physical interfaces. Both need to be configured to have operational radio link. Here are the steps,

1 On the menu bar, click **Radio > Radio Configuration**. And following radio configuration screen opens.

	Radio1
Description	
Space Diversity	disabled
XPIC	local
MIMO	disabled
POE Cable Length	> 75m and ≤ 100m
MLHC	☑
Hitless Aggregation	☑
Status	up
Detected XPIC	enabled
Detected MLHC	✔

Interface

Name	Carrier1/1	Carrier1/2
Enabled	✔	✔
Power Saving	☐	☐
Power Status	✔	✔
Description		

Capacity

Regulatory Standard	ETSI	
Bandwidth	112 MHz	
Reference-SEC	Class-2 *QPSK*	
Modulation Mode	Adaptive	
Modulation Min	QPSK	QPSK
Modulation Max	4096-QAM	4096-QAM
Detected Tx Modulation	2048-QAM	2048-QAM
Detected Rx Modulation	2048-QAM	2048-QAM
Detected Tx Capacity (Mbps)	1001.240	1001.240
Detected Rx Capacity (Mbps)	1001.240	1001.240

Frequency

Tx Frequency (MHz)	11055
Rx Frequency (MHz)	11565
Tx/Rx Spacing (MHz)	510

Transmit Power

Power Mode	ATPC	ATPC
Min Output Power (dBm)	9.0	9.0
Max Output Power (dBm)	22.5	22.5
Fade Margin (dB)	10.0	10.0
Detected Fade Margin 10^{-6}	23.6	27.5
Detected ATPC Fade Margin	18.9	22.7
Remote Fade Margin 10^{-6}	26.6	29.6
Remote ATPC Fade Margin	22.0	24.9
Detected Output Power (dBm)	9.0	8.9
Tx Mute	☐	☐

2 Beginning at the top of the page, complete the configuration for the radio as needed. when all changes have been completed, click **Commit**

Here are the initial configurations required for a Diplo G2 Link

a. Go to **Description** and add the radio description

b. Scroll down and go to **XPIC,** Select **"local"** from the drop down menu**.**

c. Enable "**MLHC"** and "**Hitless Aggression**" by adding the check mark.

d. Scroll down to "**Interface**" Section and **Enable** "***Carrier 1/1***" and "***Carrier 1/2***" by adding the **check mark**. This will activate the radio interface (Physical interface)

e. Scroll down to "**Capacity**" section and select regulatory standard from drop down **ANSI or ETSI.**

f. Go to **Bandwidth** and select required bandwidth from dropdown i.e. **"112 MHZ"**

g. Select the **Modulation mode, "**Adaptive" Or "Fixed**",** preferred mode is **"Adaptive".**

h. Set the "**Modulation Min"** and **"Modulation Max"** respectively as **"QPSK" and "4096-QAM"** from the dropdown menu.

i. Scroll down to "**Frequency**" section and define "**TX Frequency (MHz)"** and "**RX Frequency (MHz)**".

j. Scroll down to "**Transmit power**" section and set the "**Min Output Power**" "**Maximum Output power**". I.e. Set Min as 9 dBm and Max as 29 dBm.

k. By default radios come as muted, i.e. the device will not transmit any RF signals. In order to have a link between two devices it is necessary to unmute the radios.

To **Unmute** the radio, **Remove "Check mark"** comes under ***Carrier 1/1*****"** and **"*Carrier 1/2*".**
Once Unmuted, then the radios will start transmitting the RF signals.

l. Once the configuration are completed, click **Commit.** And the settings will be forwarded to the terminal of radio 1.

3 Repeat the same steps in second radio (except for the frequencies) as well.

In regards to frequencies, The "**Tx frequency**" of the radio 1 will be the "**Rx frequency**" radio 2 and "**Rx Frequency**" of radio 1 will be the "**Tx frequency**" of radio 2.

Once you finished the steps on second radio, then position the units vertically as shown in the below image and at this stage you should be able to get link established on both "**Carrier 1/1"** and **"Carrier 1/2".**

The link can tested by a **ping** to remote device or go to the **Dashboard** to see the connection details.

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 and operation of the link please refer to **NetStream Primo/Diplo G2 Quick Installation Guide and System Manual** available on Netronics knowledge base section of the website.

If you need further assistance, please contact us on support@netronicsnetworks.com