Omnia®

THE TELOS ALLIANCE

Omnia® MPX Node

FM Multiplex / RDS over IP at data rates as low as 320kbps

ENCODER 1/6
MPX Node
uMPX Mode 320k

DECODER 1/6
MPX Node
uMPX Mode

INTRODUCTION

The Omnia MPX Node is a purpose-built broadcast codec for transporting FM composite (MPX) signals over IP networks. This quick start guide provides the basic directions to configure your MPX Node. For more detailed information please consult the user manual, available at TelosAlliance.com/Omnia .

REQUIRED EQUIPMENT, CABLES, AND ACCESSORIES:

There are a few additional items required for a successful installation. Check the list below and make sure you have what you need.

Included items:
- MPX Node unit
- Power Supply

Items you need to supply:
- PC or tablet to connect to the Web interface
- Ethernet cable

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Initial Setup

The MPX Node is predominantly controlled through an HTML5 web interface, so your first task is to get the unit connected to your network. For convenience, MPX Node ships set to DHCP for both network interfaces. If you do not have a DHCP server on the network you can set a Static IP address manually. Below are directions for both situations, please follow the steps that pertain to your system.

Connecting to a network with DHCP

1. Connect a network cable to the interface labeled NET 1
1. Power on the MPX Node
2. Press the top button on the Front Panel until the NET 1 page appears

3. Verify the IP address displayed is correct for your network.

Assigning a Static IP Address

1. Connect a network cable to the interface labeled NET 1
2. Power on the MPX Node

3. Press the top button on the Front Panel until the NET 1 page appears.
4. Press and hold the bottom button for 10 seconds until you see the Setup page.
5. Use the top button to change values, and the lower button to advance to the next field.
6. To save changes, advance to the SAVE field and press the top button.
7. The MPX Node will now reboot, and will be set to the new IP Address.

Connecting to the user interface

Once your MPX Node has a valid IP address, the remainder of the configuration will be performed via the web interface.

1. Open a web browser on a computer connected to the same network as the MPX Node.
2. Type the IP Address of the MPX Node into the address bar of the web browser, and press enter.

3. When the Login page is presented the first time, the username and password are both "user" with no quotes.
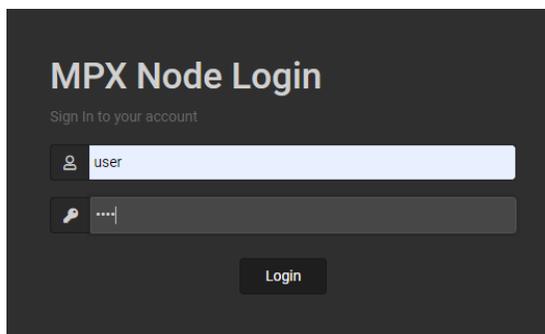
4. After you log into the MPX Node for the first time you will be prompted to set a password.
   Note: The Password must be at least 6 characters long, and must contain at least 3 of the following:
   - 1 Special Character (eg: $, #, %)
   - 1 Number
   - 1 Upper Case Letter
   - 1 Lower Case Letter
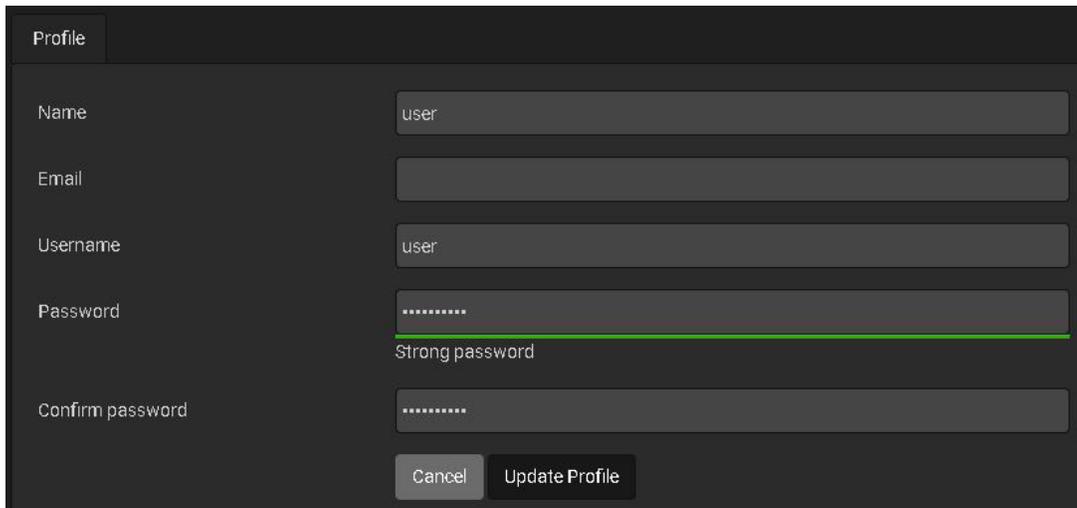
5. Fill in the Password and Confirm Password fields with identical information, click "update profile" to save.

6. Store your password in a safe and easily accessible location.

System Configuration

From this point forward the configuration is specific to whether the MPX Node is operating as an Encoder or Decoder. Please select the section that pertains to the type of MPX Node you are configuring.

Verifying operating mode

There are two ways to confirm what operating mode your MPX Node is currently set to. In the web interface navigate to the "System Setup" page, and look in the upper left corner to see the operating mode. Alternatively, the operating mode is always displayed in the upper left corner of the Front Panel display.
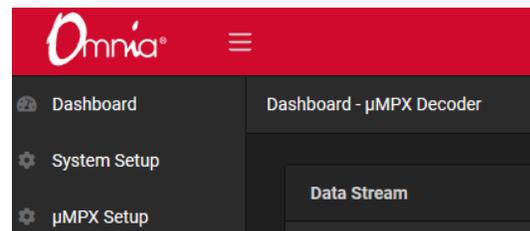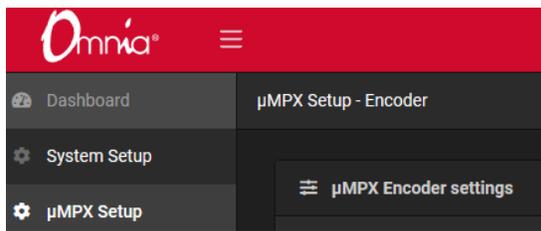
Encoder Setup

The following directions assume MPX Node is still powered on and the web interface is still open.

1. Connect the composite output of your audio processor, to the composite interface of the MPX Node.
2. Navigate to the µMPX Setup page

3. Turn on the Encoder by clicking the On/Off button in the µMPX Encoder Settings section.
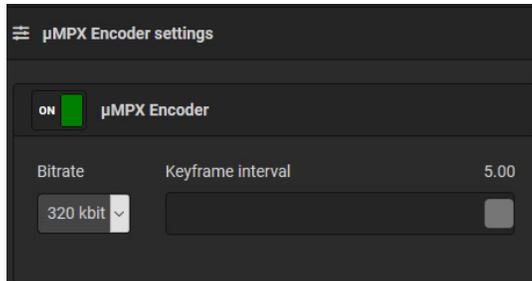
4. Set the bit rate you would like to transmit at (default is 320 kbps)

5. While feeding program audio from your processor, use the Main Input Level slider control to adjust appropriate input levels. Adjust levels as close as you can to achieve 100% Level, without setting off the Clip Indicator. Note that while you want to avoid clipping, being too conservative will result in weak modulation.

6. Scroll down to the Streams section

7. Turn on the first stream

8. Type the IP Address of the target decoder into the IP field, press Enter to save.

9. Set the port number for the target decoder, press Enter to save.
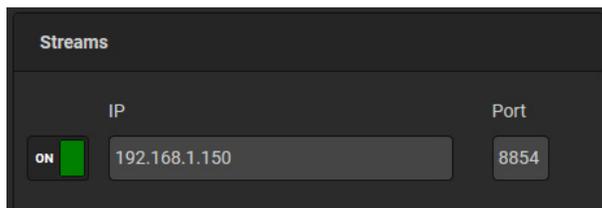
10. Connect to the target decoder if it is online and verify it is receiving the stream.

Decoder Setup

We recommend first configuring the Decoder on a test bench, as the output gain may need to be adjusted via dipswitch. By default, output is 4 volts, and 5 ohms.

The following directions assume MPX Node is powered on and the web interface is still open.

1. Navigate to the µMPX Setup Page
2. Turn on the µMPX Decoder
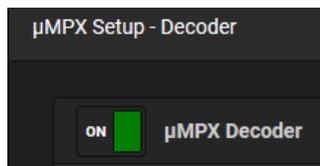
3. Locate the Stream Receiver section, and set the default port to one that can pass through the firewall on your network. If you have questions about this please consult the full user manual.
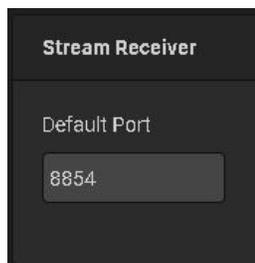
4. The meters should now show the incoming signal if the encoder is active.
   a. In the event you do not receive a stream, verify the encoder is turned on, and the IP address and port number are correct.
5. Connect the composite output to your transmitter, or test equipment.
6. Verify your station is still modulating at 100%. If you are over modulating, navigate to µMPX Setup menu, and use the MPX Level Output slider to adjust until you reach 100% modulation.

Want to know more?

In addition to familiarizing yourself with the various pages and controls in the GUI, we encourage you to consult the full user manual, as it contains detailed information about how the MPX Node functions. If you have questions user please do not hesitate to reach out to our support department at support@telosalliance.com.

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