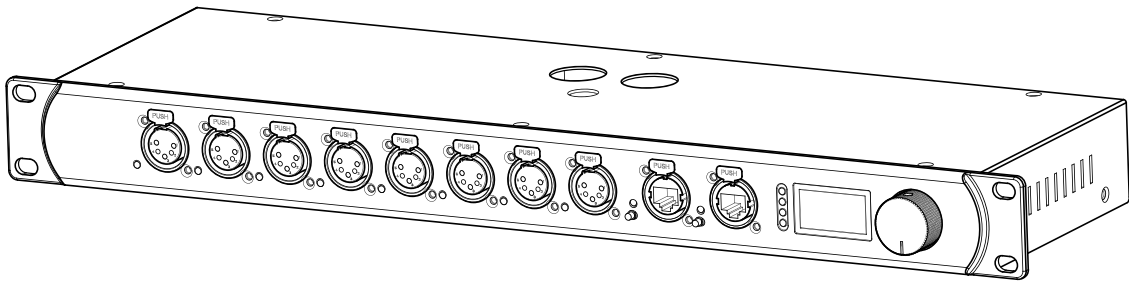


NET-X II

Quick Start Guide



About This Guide

The Net-X II Quick Start Guide (QSG) contains instructions on routing DMX data from various specific lighting desks and control systems through this product to DMX lighting fixtures.

Disclaimer

The information and specifications contained in this QSG are subject to change without notice.

Contact

Outside the U.S., U.K., Ireland, Benelux, France, Germany, or Mexico, contact your distributor to request support or return a product. Refer to [Contact Us](#) at the end of this QSG for contact information.

To Begin

1. Open the Net-X II box by carefully cutting the tape. Take special care not to cut too deeply, or the housing of the Net-X II may be damaged.
2. Unpack the Net-X II and make sure all parts have been received in good condition. If the box or contents appear damaged, notify the carrier immediately, not Chauvet.
3. Connect the included Seetronic Powerkon power cord from the product into mains power (100-120 V AC, 50/60 Hz). After a few seconds the product should display the home screen.
4. When the home screen is displayed, connect an ethernet cable from the lighting desk/control system to a Seetronic Etherkon through port on the Net-X II.



This connection may be direct or via an ethernet switch or router.

5. Confirm the following:
 - The A-B ethernet status indicator shows an active connection.
 - The LINK LED indicator is active (indicates the product is connected to the control system via a UDP/IP connection).
 - The ACT LED indicator is active (indicates the product is receiving ethernet data packets from 1 or more products on the network).
 - The display port signal indicators display a check mark (indicates the lighting desk/control system is already sending DMX packets on the default port/universe settings) or an X symbol (indicating either that the Net-X II is not yet receiving data or that the lighting desk/control system is not actively sending lighting cues).

Specific Lighting Desk Setup

Chamsys/MagicQ Setup with Net-X II

To enable output from the Chamsys/MagicQ platform to the Net-X II:

1. If used previously, perform a factory reset on the Net-X II.
2. Connect the Net-X II to the PC or lighting desk via an ethernet cable.



- The ACT and LINK LED indicators next to the Seetronic Etherkon through port should be active.
- The ACT LED indicator may be solid or flashing slowly. This is normal. When successfully configured, this indicator will flash rapidly.

3. On the Net-X II, navigate to **9. User Preset** and select either **1. Art-net 8-port DMX** or **2. sACN to 8-port DMX**. The product will receive the selected signal protocol and convert it to DMX.

4. On the Chamsys MagicQ software GUI or on a Chamsys lighting desk, press the **<SETUP>** key.



5. In the top toolbar, press **<VIEW SETTINGS>**.



6. In the secondary top toolbar of the next screen, press **<Network>**.



7. Configure the following parameters in this window:

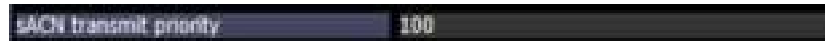
- **IP address:** Set the first value to **2** so it matches the default IP range of the Net-X II.



- **Subnet mask:** Set to **255.0.0.0** (this can be changed later, if needed).



- **sACN transmit priority:** Set to **100**. If another lighting desk/control system on this network will control the Net-X II on sACN, configure this setting separately.



8. In the secondary top toolbar, press **<Hardware>**.



9. Configure the **Reduced rate output** setting to one of the following options:



- **Continuous:** ensures solid control. Will cause more traffic on the network.
- **Changes only:** reduces network traffic to 1 packet per second. If this option is selected, the Net-X II **6. On Source Loss** setting must be set to **1. Hold output** to prevent errors. Indication on the front panel of the Net-X II may still be inaccurate, but the lighting control will not be affected.
- **Reduced rate:** similar to **Changes only**, reduces network traffic. Indication on the front panel of the Net-X II may be inaccurate, but lighting control will be normal.

10. In the top toolbar, press **<VIEW DMX I/O>**.

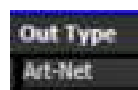


11. Refer to the appropriate **Uni** line of this chart to determine to which line/universe all connected products are patched. The **Status** should show as **Enabled**.



If the Status shows **En Cflct**, multiple Unis may be set to the same universe on the network. The **In Type** may need to be disabled to correct this error.

12. Select the output protocol by configuring the **Out Type** setting. The Net-X II is capable of processing either Art-Net™ or sACN.



13. With the **DMX I/O** window configured, an **Uni** may be set to **Test** mode. This will send data to the Net-X II.



Before proceeding, do the following:

- Confirm that the lighting fixtures are receiving the signal.
- Turn the **Test** mode off.

14. In the top toolbar, press **<NET MANAGER>** and then press **<VIEW ART-NET>**.



15. This screen displays the products on the connected ethernet network. Parameters shown should include:

IP	Name	Start uni	Num ports	Cons Uni	ESTA code	Long name
2.169.49.49	NET-X II	0	8	1	0x21A4 [CHAUVET Lighting]	NET-X II(42:4C:A9:31:31:30)
2.0.0.1	ChamSys MagicQ	0	4	1	0x050A [ChamSys Ltd.]	ChamSys MagicQ console

Long name	Port 1	Port 2	Port 3	Port 4	Port 5	Port 6	Port 7	Port 8
NET-X II(42:4C:A9:31:31:30)	0 OE	1 OE	2 OE	3 OE	4 OE	5 OE	6 OE	7 OE
ChamSys MagicQ console	0 OE	1 OE	2 OE	3 OE				

- IP address
- Name
- Start universe
- Number of ports
- ESTA manufacturer start code
- Long name
- Universe address of each port (may show as a hex value, depending on the software version. Enter a decimal value [from 0-255] and it will automatically convert to hexadecimal.)

The Chamsys MagicQ should also populate in this window. The lighting desk will identify itself on the network. This is normal.

16. If RDM products are connected to the DMX output ports of the Net-X II, press **<View RDM>** in the top toolbar to view them. Alternatively, continue to patch lighting products and use as normal.

Uni	Type	RDM Uni	Addr	Chans	Per	Tot	Manufacturer	Model
1	ArtNet RDM	0	49	21	1	4	CHAUVET PROFESSIONAL	ROGUE R1X WASH

Model	Mode	UID	Model ID (hex)	Curve	Freq
ROGUE R1X WASH	MODE 1 - 21CH	21A4-63700000	0637	1 of 4	2 of 6

To enable RDM functionality on the Net-X II, the **4. Operating Mode** setting must be set to **1. 8 Port**. RDM is disabled when **2. 2 + 8 Port** is selected.

Obsidian/Onyx Setup with Net-X II

To enable output from the Obsidian/Onyx platform to the Net-X II:

1. If used previously, perform a factory reset on the Net-X II.
2. Connect the Net-X II to the PC or lighting desk via an ethernet cable.

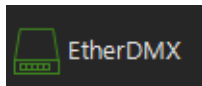
- The ACT and LINK LED indicators next to the Seetronic Etherkon through port should be active.
- The ACT LED indicator may be solid or flashing slowly. This is normal. When successfully configured, this indicator will flash rapidly.

3. On the Net-X II, navigate to **9. User Preset** and select either **1. Art-net 8-port DMX** or **2. sACN to 8-port DMX**. The product will receive the selected signal protocol and convert it to DMX.

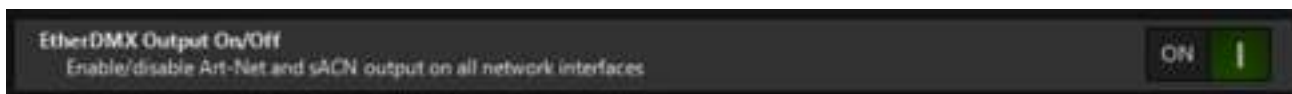
4. In the Onyx software/lighting desk, select **ONYX/Menu** and then select **Menu**.



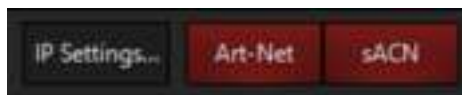
5. In the left-side toolbar of this window, select **EtherDMX**.



6. Set the Global Output setting (**EtherDMX Output On/Off**) to **ON**.



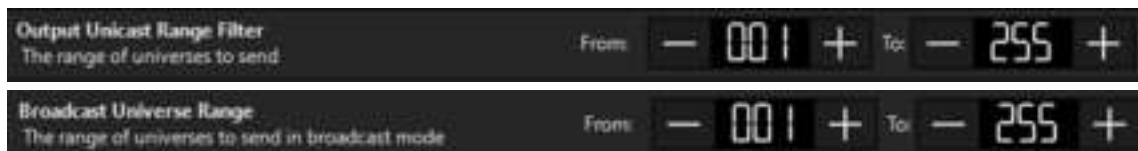
7. In the **Network Interfaces** section, locate the appropriate output port. When applicable, this name will correspond with the network adapter of the PC being used.
 8. In the adapter section of Network Interfaces, press the **<Art-Net>** and/or **<sACN>** buttons, changing them from black to red.



9. Set the Art-Net/sACN rules for the adapter to **Out**.



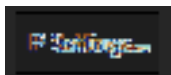
10. Set the **Output Unicast Range Filter** and the **Broadcast Universe Range** to at least **1-8**. This is to match the Net-X II. Adjust accordingly if multiple nodes are connected to the network adapter.



11. For sACN, set the **Priority** to a suitable value. If this is the only lighting desk/control system on the network, setting this value to **100** will generally work.

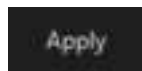


12. Select **IP Settings**.



13. In the pop-up window, set the first value of the IP address to **2** so it matches the default IP range of the Net-X II, and set the Subnet to **255.0.0.0**. Pressing **<EtherDMX>** in this menu will automatically assign suitable values.
 14. At this point, the name of the adapter may also be edited for easier later identification.

15. Scroll to the bottom of the EtherDMX screen and press **<APPLY>**.



If it was not already doing so, the **ACT LED** indicator should be flashing rapidly after this step. If not, repeat the previous steps to ensure they were completed successfully.

16. **<Devices>** should now be available at the bottom of this window, next to **<Settings>**. Press **<Devices>** to see the details.



- In this window each port of the Net-X II will be shown as a separate device. The universe can be changed for each by selecting the icon of the desired port.



In this window, pressing **<Webpage>** will enter the IP address of the Net-X II into the default browser of the PC in order to access the webserver of the product.

- From the left-side toolbar, select **Settings**, then select **Interfaces** at the bottom.



- In this window, check the network interface to ensure the Art-Net™ logo is displayed to the right of the icon. The network adapter settings can also be modified from here.

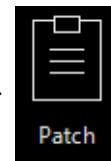
- Select **<Back>** at the top left of the window to return to the main menu.

- If no fixtures have been patched at this time, the menu of the Net-X II should be showing no active ports.

Patching Products in Obsidian/Onyx

The following is an example showing the patching process for a generic fixture as a proof of concept. Following these steps will ensure a proper connection between the node and the lighting desk/control system.

- At the top of the main menu of the lighting desk/control system, press **<Patch>**.



- Select **Choose Type** at the bottom left side of the screen. This will bring up the fixture type menu.



- Select **Generic Colors RGB Pixel**.



- Under **Fixture Settings**, select **150**. This will send 150 RGB pixels to the Net-X II.
- Select **Use Fixture Type**. The window will close with 150 RGB pixels loaded into the command line.

- In the **Patch** window line for fixture ID 1, click the **Universe** cell. Ignore the window which will pop up (which gives the option to replace or add address). Instead type **1** and press **<Enter>** on the keyboard.



- In the same line of the **Patch** window, click the **Address** cell. Ignore the window which pops up again, and type **1** and press **<Enter>** on the keyboard.

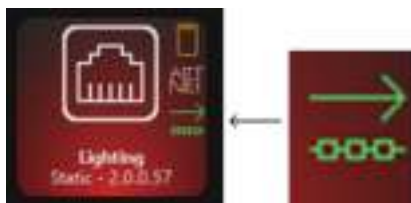


- Data should now be passing directly to the ports of the Net-X II. The display port signal indicators should now display a check mark instead of an X symbol.



Because Onyx is sending data packets over the network to ensure the node is in the ready state, the Net-X II is able to identify the lighting desk/control system sending Art-Net™ to the port (even if no functions of the fixtures are being triggered). The lighting desk/control system will be sending the 0% value, or the static value for moving lights (a home position of 128 or 50%).

- Further fixtures may be patched from this point, or this window may be closed by pressing **<Close>** on the bottom right side.
- If or when data is being sent out by Onyx can be confirmed by checking for the green network icon in the **Network Interfaces** portion of the **Network** menu.



MADRIX Setup with Net-X II

To enable output from the MADRIX platform to the Net-X II:

- If used previously, perform a factory reset on the Net-X II.
- Connect the Net-X II to the PC or lighting desk via an ethernet cable.
 - The ACT and LINK LED indicators next to the Seetronic Etherkon through port should be active.
 - The ACT LED indicator may be solid or flashing slowly. This is normal. When successfully configured, this indicator will flash rapidly.
- On the Net-X II, navigate to **9. User Preset** and select either **1. Art-net 8-port DMX** or **2. sACN to 8-port DMX**. The product will receive the selected signal protocol and convert it to DMX.
- If using Art-Net™, skip to step 5. If using sACN, do the following:
 - From the MADRIX menu, open **Options**.
 - At the top, switch to the **Devices Network** tab.
 - Press the box to the left of **Enable ACN E1.31** to turn on the ESTA Streaming ACN function. The drop-down menu will become active.



- Open the drop-down menu and select the network adapter which is connected to the Net-X II.
- Select the desired number of universes. A single Net-X II can use up to 8 universes. The default setting in MADRIX is 10.
- Press **Apply** or **Okay**, then close this **Options** window.
- In the top menu, select **Preferences** and open **Device Manager**.

- h. Select the **DMX Devices** tab. The number of sACN universes which were just activated will be visible.

State	Device Name	Universe	OUT/IN	ms/FPS	Frames
On	ACN Id:00001, Univ:00001	1	OUT	30/33.3	Full
On	ACN Id:00002, Univ:00002	2	OUT	30/33.3	Full
On	ACN Id:00003, Univ:00003	3	OUT	30/33.3	Full
On	ACN Id:00004, Univ:00004	4	OUT	30/33.3	Full
On	ACN Id:00005, Univ:00005	5	OUT	30/33.3	Full
On	ACN Id:00006, Univ:00006	6	OUT	30/33.3	Full
On	ACN Id:00007, Univ:00007	7	OUT	30/33.3	Full
On	ACN Id:00008, Univ:00008	8	OUT	30/33.3	Full
Off	ArtNet Remote (MADRIX) Port 0		IN	30/33.3	—

- i. The address of each universe can be changed here. Ensure that they match the universe addresses of the DMX outputs of the Net-X II. The default sACN universes of the Net-X II 2. sACN to 8-port DMX mode range from 1 to 8.

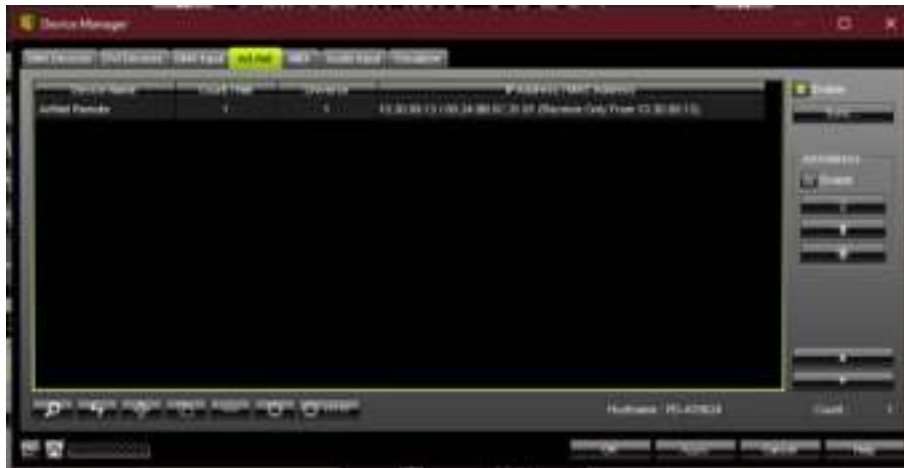


- j. Selecting a universe and pressing the light-bulb button at the bottom of this window will set all 512 DMX values of that universe to 255 (full). This can assist in determining which lighting fixtures are on which universe, and can be especially useful for pixel mapping.



5. If using sACN, skip to step 6. If using Art-Net™, do the following:
- From the MADRIX top menu, select **Preferences** and open **Device Manager**.

- b. Select the **Art-Net** tab.



- c. On the bottom left, select the magnifying glass and search for the Net-X II ports (8). When the ports are set to the Art-Net™ protocol on the Net-X II, they will automatically populate on this tab.



Device Name	Count/Net	Universe	IP Address / MAC Address
ArtNet Remote	1	1	10.30.99.13 / 00:24:9B:5C:31:51 (Receive Only From 10.30.99.13)
NET-X II	4	0, 1, 2, 3	2.169.49.49 / 42:4C:A9:31:31:30 / Bndk0:0 (Send Only To 2.169.49.49)
NET-X II	4	7, 8, 9, 10	2.169.49.49 / 42:4C:A9:31:31:30 / Bndk0:7 (Send Only To 2.169.49.49)
NET-X II	4	6, 5, 4, 3	2.169.49.49 / 42:4C:A9:31:31:30 / Bndk0:6 (Send Only To 2.169.49.49)
NET-X II	4	5, 4, 3, 2	2.169.49.49 / 42:4C:A9:31:31:30 / Bndk0:5 (Send Only To 2.169.49.49)
NET-X II	4	4, 3, 2, 1	2.169.49.49 / 42:4C:A9:31:31:30 / Bndk0:4 (Send Only To 2.169.49.49)
NET-X II	4	3, 2, 1, 0	2.169.49.49 / 42:4C:A9:31:31:30 / Bndk0:3 (Send Only To 2.169.49.49)
NET-X II	4	2, 1, 0, 0	2.169.49.49 / 42:4C:A9:31:31:30 / Bndk0:2 (Send Only To 2.169.49.49)
NET-X II	4	1, 0, 0, 0	2.169.49.49 / 42:4C:A9:31:31:30 / Bndk0:1 (Send Only To 2.169.49.49)

- d. Select the DMX Devices tab. The Net-X II ports discovered earlier will be visible here, with their states set to **Off**.

State	Device Name	Universe	OUT FR	Hz / FPS	Frames
Off	ArtNet Remote (MADRIX) Port 0		81	30 / 33.3	—
Off	NET-X II (2.169.49.49) Bndk0:1 Port 0	1	OUT	30 / 33.3	Optimized
Off	NET-X II (2.169.49.49) Bndk0:2 Port 0	2	OUT	30 / 33.3	Optimized
Off	NET-X II (2.169.49.49) Bndk0:3 Port 0	3	OUT	30 / 33.3	Optimized
Off	NET-X II (2.169.49.49) Bndk0:4 Port 0	4	OUT	30 / 33.3	Optimized
Off	NET-X II (2.169.49.49) Bndk0:5 Port 0	5	OUT	30 / 33.3	Optimized
Off	NET-X II (2.169.49.49) Bndk0:6 Port 0	6	OUT	30 / 33.3	Optimized
Off	NET-X II (2.169.49.49) Bndk0:7 Port 0	7	OUT	30 / 33.3	Optimized
Off	NET-X II (2.169.49.49) Bndk0:8 Port 0	8	OUT	30 / 33.3	Optimized

- e. Select each universe, then click the **Enable** check box on the right under **Device > Settings** to enable the outputs to the Net-X II.

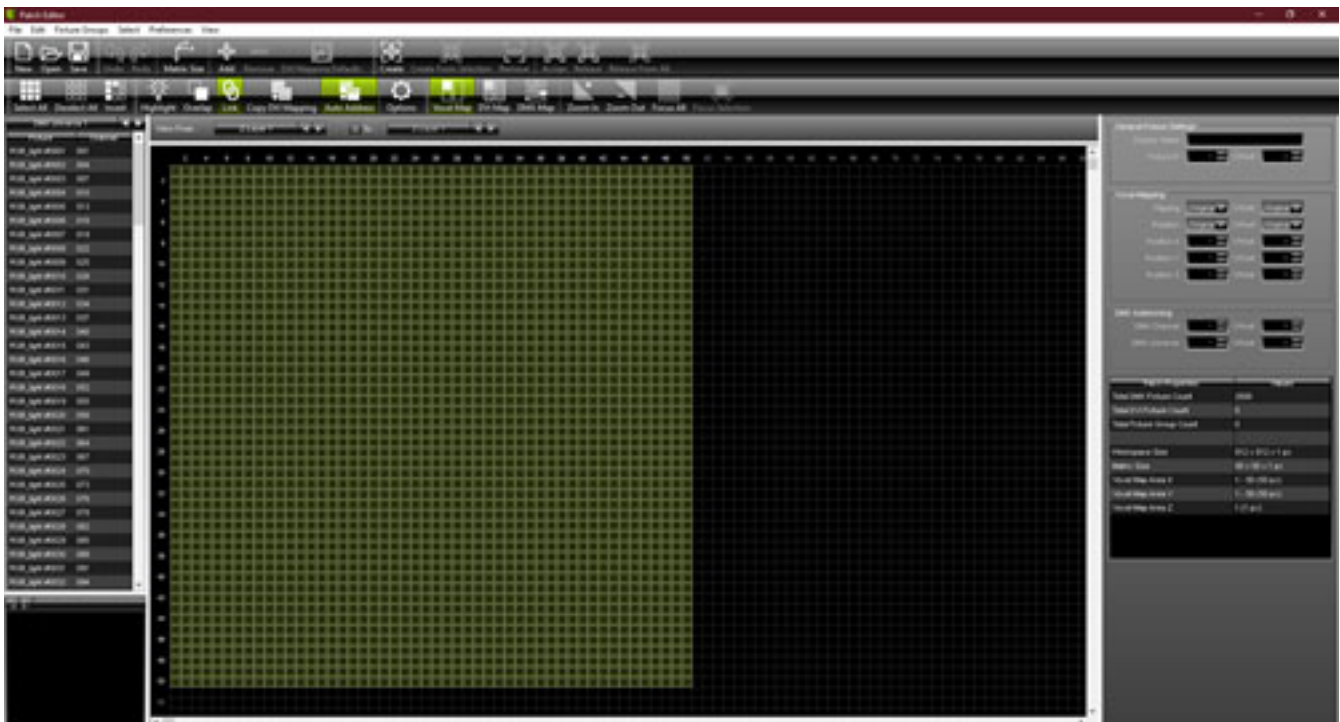


Date	Device Name	Universe	OUT / IN	int / FPS	Frames
Off	ArtNet Remote (MADRIX) Port 0		IN	30 / 33.3	...
On	NET-X II (2.169.49.49) Bndk1:1 Port 0	1	OUT	30 / 33.3	Optimized
On	NET-X II (2.169.49.49) Bndk1:2 Port 0	2	OUT	30 / 33.3	Optimized
On	NET-X II (2.169.49.49) Bndk1:3 Port 0	3	OUT	30 / 33.3	Optimized
On	NET-X II (2.169.49.49) Bndk1:4 Port 0	4	OUT	30 / 33.3	Optimized
On	NET-X II (2.169.49.49) Bndk1:5 Port 0	5	OUT	30 / 33.3	Optimized
On	NET-X II (2.169.49.49) Bndk1:6 Port 0	6	OUT	30 / 33.3	Optimized
On	NET-X II (2.169.49.49) Bndk1:7 Port 0	7	OUT	30 / 33.3	Optimized
On	NET-X II (2.169.49.49) Bndk1:8 Port 0	8	OUT	30 / 33.3	Optimized

- f. Selecting a universe and pressing the light-bulb button at the bottom of this window will set all 512 DMX values of that universe to 255 (full). This can assist in determining which lighting fixtures are on which universe, and can be especially useful for pixel mapping.



- 6. The next step is patching the lighting fixtures or pixels. Close the **Device Manager** window, then select **Preferences** in the MADRIX top menu and open **Patch Editor**.



- In this window, scroll pages with the left/right arrows to select a universe. In the mapping window, fixtures can be re-patched and arranged as needed.



MADRIX refers to each grouping of RGB (3 channels) as a “voxel”.

- Use the panel on the right side to help set the mapping. The **Patch Editor** window can be closed once finished.

General Fixture Settings

Display Name :

Fixture ID : Offset :

Voxel Mapping

Flipping : Offset :

Rotation : Offset :

Position X : Offset :

Position Y : Offset :

Position Z : Offset :

DMX Addressing

DMX Channel : Offset :

DMX Universe : Offset :

Patch Properties	Values
Total DMX Fixture Count	2500
Total DVI Fixture Count	0
Total Fixture Group Count	0
Workspace Size	512 x 512 x 1 px
Matrix Size	50 x 50 x 1 px
Voxel Map Area X	1 - 50 (50 px)
Voxel Map Area Y	1 - 50 (50 px)
Voxel Map Area Z	1 (1 px)

- An easy way to test the output to/through the Net-X II is by setting both the left and right MADRIX outputs to **SCE Color**, then setting **R**, **G**, and **B** to full. Proper patching and mapping can be tested by controlling each color.



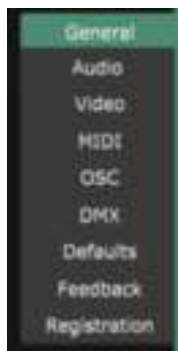
Resume Arena Setup with Net-X II

To enable output from the Resume Arena platform to the Net-X II:

- If used previously, perform a factory reset on the Net-X II.
- Connect the Net-X II to the PC or lighting desk via an ethernet cable.
 - The ACT and LINK LED indicators next to the Seetronic Etherkon through port should be active.
 - The ACT LED indicator may be solid or flashing slowly. This is normal. When successfully configured, this indicator will flash rapidly.
- On the Net-X II, navigate to **9. User Preset** and select either **1. Art-net 8-port DMX** or **2. sACN to 8-port DMX**. The product will receive the selected signal protocol and convert it to DMX.
- In the Resume Arena menu, navigate to **Arena** and select **Preferences**.



- In the left toolbar, select the **DMX** tab.



- In the **Network Adapter** drop-down menu, ensure that the correct network adapter has populated and is selected.

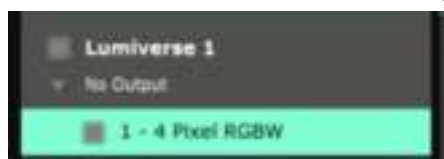


- Close the **Preferences** window, select **Output**, and open **Advanced**.

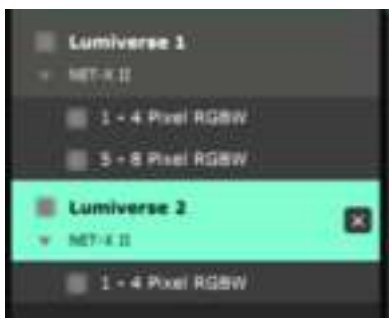
- Press **<+>** (the add button) to add an Art-Net™ output line.



- Select **DMX Lumiverse**. A new Art-Net™ line will be added, with a single fixture.



10. Click the **Lumiverse** in the left side of the window, then open the drop-down menu for **TargetIP** and select from the following options:
- **No Output**: disables the output. Is selected by default for a new DMX Lumiverse.
 - **Broadcast**: sends the Lumiverse to all Art-Net™ nodes on the network, regardless of the target IP address setting. This option is unrelated to the subnet/universe setting.
 - **IP Address**: permits the manual input of a target IP address to which the Lumiverse will be exclusively sent. This uses the Art-Net™ Unicast transmission method.
 - **._._._. (NET-X II)**: available if the Net-X II is connected and communicating properly, and will be displayed as the IP address of the Net-X II with the name of the product in parentheses. This is the easiest option to select.
- With the **._._._. (NET-X II)** option selected in the **TargetIP** drop-down menu, the name will be added underneath the Lumiverse on the left side of the window.



11. At this point a custom Fixture profile may need to be created. Select the gear icon on the right side of the window (by the fixture addressing) to access the Fixture editor window.



12. Existing fixtures may be modified and new fixtures may be added in this window. They can be renamed in order to help identify them in the **Advanced Output** window.



At the time of the release of this guide, Resolume Arena supports 3-, 4-, and 5-channel color mixing.

For moving-head fixtures, there are 2 ways of connecting Resolume Arena to them via the Net-X II:

- Set the pan, tilt, master dimmer, and master shutter/strobe functions to New parameters as static values. The dimmer and shutter/strobe functions could be set to full or open and the pan/tilt functions could be set to 128 (simulating 90° tilt and centered panning). With these settings, only the LED control needs to be programmed in Resolume Arena.
- Forgo patching the pan, tilt, dimmer, and shutter/strobe channels in Resolume Arena completely. This way those functions can be controlled separately by another lighting desk or control system. To enable dual control like this on the Net-X II, do the following.
 - a. Navigate to **7. Set DMX Port**.
 - b. Select the desired DMX port.
 - c. Navigate to **3. DMX Mode**.
 - d. Select **LTP** (Latest Takes Priority) or **HTP** (Highest Takes Priority).



13. Add new fixtures as needed by pressing **<+>** (the add button). Profiles can be modified after the fixtures are added.

- Find the Fixture profile selection and addressing options on the right side of the **Advanced Output** window, and select the desired Fixture and Start Channel.



- In the input selection window, choose locations to match the desired output configuration by dragging directly with the mouse or by adjusting the parameters on the right side of the window after selecting each fixture.



- At this point the output and content can be mapped as normal in Resolume.

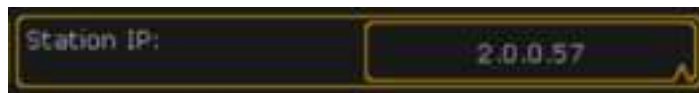
GrandMA2 Setup with Net-X II

To enable output from the GrandMA2 platform on a Windows PC to the Net-X II:

- If used previously, perform a factory reset on the Net-X II.
- Connect the Net-X II to the PC or lighting desk via an ethernet cable.
 - The ACT and LINK LED indicators next to the Seetronic Etherkon through port should be active.
 - The ACT LED indicator may be solid or flashing slowly. This is normal. When successfully configured, this indicator will flash rapidly.
- On the Net-X II, navigate to **9. User Preset** and select either **1. Art-net 8-port DMX** or **2. sACN to 8-port DMX**. The product will receive the selected signal protocol and convert it to DMX.
- In the GrandMA2 software, go to **Setup** and select **MA Network Control**.



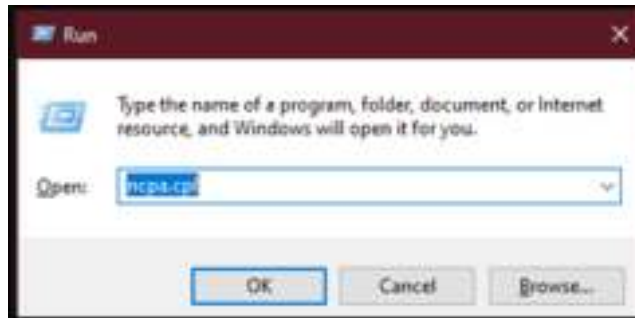
- In the **Station IP:** field, select the IP address of the network adapter connecting the PC to the Net-X II.



If the network adapter has an IP address with a first value of **2** (2.0.0.57 for example), skip to step 6. If not, do the following:

- Open the Run window by pressing the Windows Key + **<R>** on the keyboard, or by pressing the Windows Key, typing **run**, and pressing **<Enter>**.

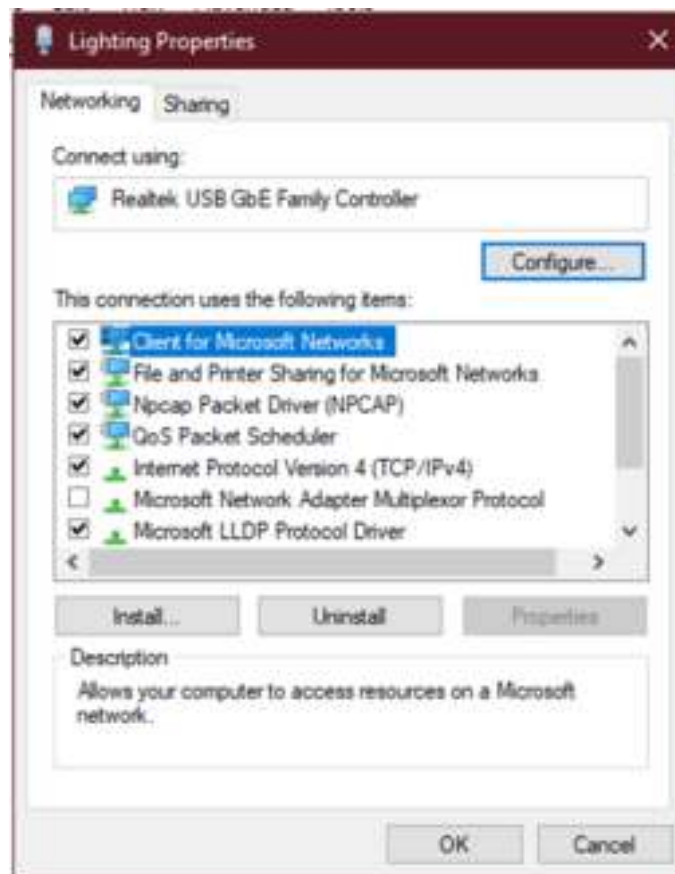
- b. Type **nca.cpl** into the **Open:** field and click **OK** or press **<Enter>**. The **Network Connections** window will open.



- c. Find the adapter being used in this window. To determine which adapter it is, unplug the cable and plug it back in, watching for which adapter changes status. If using a dedicated adapter (such as a USB to ethernet adapter), it may be helpful to rename it to "Lighting". To do so, right click on it and select **Rename**.



- d. Right click the adapter icon and select **Properties**.



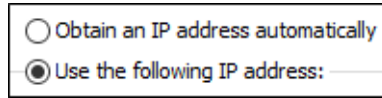
- e. In the **Properties** window, click **Internet Protocol Version 4 (TCP/IPv4)** to highlight it.



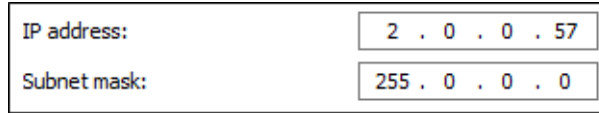
- f. Click the **<Properties>** button.



- g. At the top of this window, click the bubble next to **Obtain an IP address automatically**, and then click the bubble next to **Use the following IP address:**. This resets the IP address and clears any previous values.




- h. In the **IP address:** field, set the first value to **2**, and set the rest of the values to anything from **1–255** (as long as the IP address set is not the same address as any other device on the network, including the Net-X II).



- i. Press the **<Tab>** key on the keyboard. When done correctly, the insertion point will move to the **Subnet mask:** field and the values **255.0.0.0** will automatically be entered. If not, enter the values manually.
- j. Click **OK** and exit out of the **Network Connections** windows.
6. Change the **Station IP:** field to match the IP address of the network adapter.



 If the Windows Network Connections settings were just changed and they do not automatically populate in the **Station IP:** field, the GrandMA2 software may need to be restarted.

7. Press **Create Session**. A MA-Net Control session will begin and data will begin to output from the selected network adapter.



8. Close the **MA Network Control** window.



9. Go to **Setup** and select **Network Protocols**. If the network adapter is active, this button will be outlined in green. If not, it may be outlined in yellow, amber, or red.



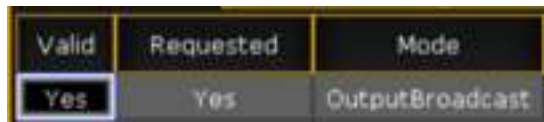
10. If using sACN, skip to step 11. If using Art-Net™, do the following:
- a. Switch to the **Art-Net** tab of the **Network Protocols** window.



- b. If there are no lines populated in this screen, create a line by pressing **Add** on the bottom left side of the window.



- c. Toggle **Requested** to **Yes** by either clicking it and pressing the **<Enter>** key, or by right clicking it.



- d. Set the **Mode** to one of the following:
- **OutputBroadcast:** adds the highest bandwidth to the network.
 - **OutputUnicast:** adds the lowest bandwidth to the network by allowing a specific destination IP address to be set manually (see step e).

- **Output Auto:** adds the lowest bandwidth to the network by performing an Art-Poll request and sending data only to the Art-Net™ nodes on the network which respond. Depending on the GrandMA2 software version, the software will Broadcast Art-Net™ if either more than 5 or 10 Art-Net™ devices are detected, or if no devices are detected. This may occur if the software sees each port of the Net-X II as a separate device. This can be changed in the command line by using the “MaxUnicast” property.
- **Input:** use only when a second lighting desk/control system is being used. This guide will not cover the use of this mode.

Destination IP	LocalStart	Amount	Network	Subnet	Universe	Delay (ms)
	1	8	1	0	0	0.00

- e. If using any **Mode** other than **OutputUnicast**, skip to step f. If using **OutputUnicast** mode, enter the IP address of the Net-X II in the **Destination IP** field.



The address entered in the Destination IP field MUST be the same as the IP address displayed on the home screen of the Net-X II. If the IP address entered is invalid, bidirectional communication will fail and the GrandMA2 software will NOT output data in this mode.

- f. Set the **Local Start** field and **Universe** field to correspond to how the fixtures need to be patched. For example:
- If fixtures are patched to universe 1 and connected to the first port of the Net-X II, set the **Local Start** to **1** and the **Universe** to **0**.
 - If the local patch has fixtures on universe 3 that need to be sent to Art-Net™ universe 13, set the **Local Start** to **3**, and the **Universe** to **13**.



Take note that Art-Net™ starts at universe 0, and sACN starts at universe 1. This can be confusing when referencing these addresses between the lighting desk/control system and the Net-X II, especially when switching between these 2 protocols.

- g. Set the **Amount** field to the quantity of universes which need to be sent. The GrandMA2 software will output that amount of universes, beginning with the universe set in the **Universe** field. For example:
- If the **Universe** is set to **0** and the **Amount** is set to **8**, the GrandMA2 software will output universes **0** through **7**.
 - If the **Universe** is set to **10** and the **Amount** is set to **4**, the GrandMA2 software will output universes **10** through **13**.
- h. Set the **Network** field to **1**, if it is not already set to that by default.
- i. Set the **Subnet** field to **0**, if it is not already set to that by default.
- j. Set the **Delay (ms)** field to **0**, as there is no need to use this function with the Net-X II.
- k. Set the 3 toggle buttons on the right side of this window as follows:



- **Network DMX if Alone:** toggle to active. This button allows the sending and receiving of Art-Net™ when this GrandMA2 lighting desk/station is the only MA device on the network. If this console/lighting desk is the Master of the session, this button will be green to indicate that this console is sending and receiving the Art-Net™ signal. If this is a connected console, this button will be red to indicate that this console is not physically sending or receiving the Art-Net™ signal.
- **Art-Net Output Active:** toggle to active, which enables this console to send the Art-Net™ signal. The **Mode** must be set to **OutputBroadcast**, **OutputUnicast**, or **Output Auto**.
- **Art-Net Input Active:** toggle to inactive.

11. If using Art-Net™, skip to the next section: [Special Note about GrandMA2 Signal Transmission](#). If using sACN, do the following:

- a. Switch to the **sACN** tab of the **Network Protocols** window.



- b. If there are no lines populated in this screen, create a line by pressing **Add** on the bottom left side of the window.



- c. Toggle **Requested** to **Yes** by either clicking it and pressing the **<Enter>** key, or by right clicking it.

Valid	Requested	Mode
Yes	Yes	OutputMulticast

- d. Set the **Mode** to one of the following:
- **OutputMulticast:** adds efficient bandwidth to the network, using compatible network interface switches, routers, etc. to route the data to IP addresses subscribed to the sending universe.
 - **OutputUnicast:** adds the lowest bandwidth to the network by allowing a specific destination IP address to be set manually (see step e).
 - **InputMulticast:** use only when a second lighting desk/control system is being used. This guide will not cover the use of this mode.
 - **InputUnicast:** use only when a second lighting desk/control system is being used. This guide will not cover the use of this mode.

LocalStart	Amount	sACN Universe	Priority	Protocol	TTL	Delay (ms)
1	8	1	100	Final	8	0.00

- e. If using **OutputBroadcast** mode, skip to step f. If using **OutputUnicast** mode, enter the IP address of the Net-X II in the **Destination IP** field.



The address entered in the Destination IP field MUST be the same as the IP address displayed on the home screen of the Net-X II. If the IP address entered is invalid, bidirectional communication will fail and the GrandMA2 software will NOT output data in this mode.

- f. Set the **Local Start** field and **sACN Universe** field to correspond to how the fixtures need to be patched. For example:
- If fixtures are patched to universe 1 and connected to the first port of the Net-X II, set the **Local Start** to **1** and the **sACN Universe** to **1**.
 - If the local patch has fixtures on universe 3 that need to be sent to sACN universe 13, set the **Local Start** to **3**, and the **sACN Universe** to **13**.



Take note that sACN starts at universe 1, and Art-Net™ starts at universe 0. This can be confusing when referencing these addresses between the lighting desk/control system and the Net-X II, especially when switching between these 2 protocols.

- g. Set the **Amount** field to the quantity of universes which need to be sent. The GrandMA2 software will output that amount of universes, beginning with the universe set in the **Universe** field. For example:
- If the **Universe** is set to **1** and the **Amount** is set to **8**, the GrandMA2 software will output universes **1** through **8**.
 - If the **Universe** is set to **10** and the **Amount** is set to **4**, the GrandMA2 software will output universes **10** through **13**.
- h. Set the **Priority** field to the default value of **100** if this is the only lighting desk/control system on the network. If there are multiple lighting desks/consoles on the network, set this value as needed from **1–200**. The Net-X II supports per-universe priority, but not per-channel priority.
- i. Set the **Protocol** field to **Final**, which is the version of sACN supported by the Net-X II.
- j. Set the **TTL** field to at least **2**, if not the default value of **8**. This function (Time to Live) limits the number of network devices the signal may pass through. Each setup may be different, requiring a different value set to this function, especially if multiple lighting fixtures are between the lighting desk/control system and the Net-X II.
- k. Set the **Delay (ms)** field to **0**, as there is no need to use this function with the Net-X II.
- l. Set the 3 toggle buttons on the right side of this window as follows:



- **Network DMX if Alone:** toggle to active. This button allows the sending and receiving of sACN when this GrandMA2 lighting desk/station is the only MA device on the network. If this console/lighting desk is the Master of the session, this button will be green to indicate that this console is sending and receiving the sACN signal. If this is a connected console, this button will be red to indicate that this console is not physically sending or receiving the sACN signal.
- **sACN Output Active:** toggle to active, which enables this console to send the sACN signal. The **Mode** must be set to **OutputMulticast** or **OutputUnicast**.
- **sACN Input Active:** toggle to inactive.

Special Note about GrandMA2 Signal Transmission

The majority of lighting desks and control systems regularly send data packets to the Art-Net™ or sACN network nodes, regardless of whether or not any part of the control signal has changed. Doing so keeps the network nodes active and ready to receive lighting cues at all times.

The GrandMA2 lighting desk/control system does not operate this way. Data packets are only sent to the network nodes when a change is made, so without any active cues no data packets will be sent. If this is not properly understood when configuring and operating the Net-X II, it can lead to some confusing results.

To ensure proper workflow using the Net-X II with the GrandMA2 lighting desk/control system, note the following:

- Errors can be mitigated by configuring the Net-X II **6. On Source Loss** setting to **1. Hold output**. This will maintain the last instruction received even when the Net-X II can no longer detect a signal from the lighting desk/control system.
- The home screen of the Net-X II may accurately indicate that no data is being received from the lighting desk with an X mark. This is normal and does not mean there is an error. The home screen will reflect this by changing the X mark to a check mark when the lighting desk sends a cue.
- The Act. LED indicators to the left of each ethernet port indicate when there is an active connection with another device on the network, and that the Net-X II has not lost connection.
- The Act. LED indicator to the left of the display indicates when Art-Net™ or sACN is being received, and should correspond to the LED indicators at the DMX output ports. This will reflect the master DMX output activity.

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RoHS

