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## **nexgentec ArtNet Network driver (NGTSLC4ZARTNETNW)**

### **1. Disclaimer**

- Genesis Technologies does provide this driver as it is. There is no commitment to support, nor does Genesis Technologies assure a decent reaction time in case of a problem. Genesis Technologies can refuse all support, discontinue support, end the driver lifetime at any time. Genesis Technologies will not refund in any case licenses
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### **2. What is the nexgentec ArtNet Network driver? What is it used for?**

The **network driver connects to all worldwide available ArtNet nodes** that are using ArtNet V3 or V4. Also it is fully compatible with all ever sold nexgentec ArtNet processors. Device drivers for Blinds and lights as well as relays are connecting to it and communicate thru it with the DMX or ArtNet devices on the bus.

The nexgentec ArtNet drivers are the replacement for all DMX Line drivers published by nexgentec or Genesis technologies.

All ever sold DMX or ArtNet Processors should run with this driver, no firmware update should be necessary, although it's always a good idea to upgrade. You can find the latest firmware on the OEM manufacturer's website [www.dmx4all.de](http://www.dmx4all.de). Then search for ArtNet-DMX STAGE-PROFI 1.1 or ArtNet-DMX STAGE-PROFI DR 1.1. If you don't find a solution please contact support.

### **3. Configuring the nexgentec DMX-Processors to work with this driver**

Default IP of the nexgentec DMX/ArtNet Processors is set to 2.0.0.10. Set your computer to the address 2.0.0.1 / 255.0.0.0 and open your browser with the address 2.0.0.10

The web interface appear:

**DMX4ALL ArtNet-DMX UNIVERSE DR 1.1**  
Version 1.11 - MAC ID: 00-60-35-72-11-7A

**Main Settings**

**ArtNet Node**  
 IP Address : 172.16.40.21  
 Short Name : ArtNet-DMX DR 1.1  
 Long Name : DMX4ALL ArtNet-DMX UNIVERSE DR 1.1

**Subnetmask**  
 Netmask : 255.255.255.0

**Interface Mode**  
 DMX Input  
 DMX Output

**LED Indicator**  
 LED auto off

**User Information**  
 The ArtNet-DMX UNIVERSE DR 1.1 is an Art-Net™ Live interface with 1 DMX output or 1 DMX input.  
 The device provides one Art-Net™ Node with 1 port/universe.  
 You can give each node an own IP address, Shortname and Longname to differ the node in the network.  
 Please use in one Art-Net™ network the IP address 2.xxx or 10.xxx with the Netmask 255.0.0.0 .  
 Other IP addresses like 192.168.1.x with Netmask 255.255.255.0 are also possible.

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**Save**

Set the IP address to a fixed one inside of your network, and set the Interface mode to output. If more than one ArtNet Processor is used set the ArtNet Parameters to be unique. All interfaces which have the same Net/Subnet/universe settings will work in parallel

**DMX4ALL ArtNet-DMX UNIVERSE DR 1.1**  
Version 1.11 - MAC ID: 00-60-35-72-11-7A

**DMX Output Settings**

**ArtNet Parameter**  
 Net : 2  
 SubNet : 1  
 Universe : 4

**ArtNet Merge Options**  
 LTP (Latest)  
 HTP (Highest)

**Advanced Options**  
 Framerate : MAX  
 ArtNet Fail : HOLD last data  
 Enable ArtNet / Madrix Sync  
 Save current DMX values as defaults  
 Enable DMX output after first ArtDMX packet  
 Enable DMX Extension Mode

**User Information**  
 The DMX4ALL ArtNet-DMX UNIVERSE DR 1.1 in this configuration has 1 DMX output.  
 The DMX output is working with 512 channels (1 Universe) in the Standard mode.  
 In the Extension mode the DMX output is working with up to 1024 channels (1+1 Universe).  
 The DMX-Routing allows you to setup the combination of the 2 universes.  
 After the given value from the 1st DMX Universe the 2nd DMX Universe is attached.  
 Example: 450 in the input box means the channels 1-450 from DMX Universe 1 and the following channels 451-963 are the channels 1-512 from DMX Universe 2.

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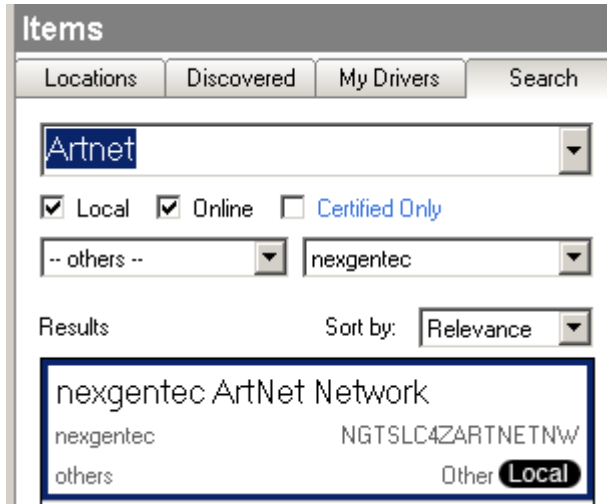
**Save**

Click *SAVE* and exit the configuration, all other settings remain as default

#### 4. Adding and configuring the driver in Composer (new installation)

assuming that you have already downloaded the drivers and placed them in %USERPROFILE%\Control4\Drivers.

4.1. Start Composer, go to *System Design* and select the tab *Search* in the right top window. Search for *ArtNet* and manufacturer *nexgentec*



4.2. Drag and drop the *nexgentec ArtNet Network* driver into the wished room. Click on it and find the Properties page. (Hovering with the mouse over the Properties will show up hints)









#### 4.3. Properties

- ->Info: Does show the driver health info. If it's not showing the version and *running* the driver will not work and the line will show the issue to be solved.
- Driver name: The product identification of the driver
- -> Licensing: Shows info about licensing status
- Mac of the Controller: Inserted automatically if empty. Once a license key is purchased on [technet.genesis-technologies.ch](http://technet.genesis-technologies.ch) it also can be inserted manually
- Activation key: Insert here the license key which is displayed in the driver dashboard after you bought a license and assigned it to the system. Once assigned in the Dashboard the license may fill in automatically once the driver connects to the online services
- Sending frames per second: ArtNet supports different frame rates, the driver can be set to send out minimal 10 frames, maximal 40 frames per second to the Processor/node. Be aware that higher frame rates mean higher load for the Control4 processor
- Send ArtNet poll approx. (s): ArtNet polls can be sent and received. Don't touch if you don't know what it is
- ArtNet poll replies: ArtNet poll replies from processors/nodes can be received and published to the device drivers. Do not change if not necessary
- -> Log / Lua window: Selects the log level printed out in Lua window from Composer. Use the level *Debug* to see the driver working
- -> Log / Online log server: If a persistent problem appears that cannot be solved from the installer support may ask you to activate a decent level. Do not use until support ask you to do so

- Log period (h): The time frame the log should output
- Log auth: Developer can give you a code to see more logs. Usually not really interesting, only for in deep debug

#### 4.4. Connections

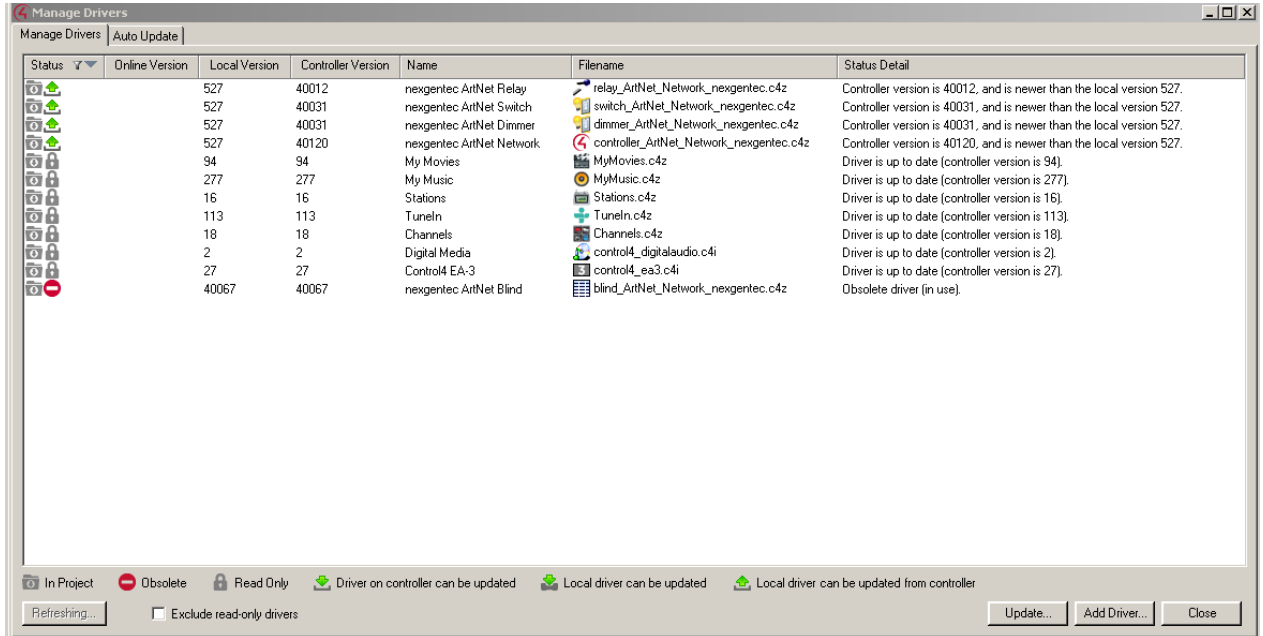
- If the *nexgentec ArtNet Network* was installed before all device drivers, the connections for ARTNET\_NETWORK should be done automatically. Alternatively all device drivers can be bound / unbound in Actions

nexgentec ArtNet Network				
Name	Type	Connection	Input/Output	Connected To
<b>Control Inputs</b>				
 Save ArtNet output state	Control	CONTACT_SENSOR	Input	
 Recall ArtNet output state	Control	CONTACT_SENSOR	Input	
 Relay 1	Control	RELAY	Input	
 Relay 2	Control	RELAY	Input	
 Relay 3	Control	RELAY	Input	
 Relay 4	Control	RELAY	Input	
 Relay 5	Control	RELAY	Input	
<b>Control Outputs</b>				
 ArtNet Network	Control	ARTNET_NETWORK	Output	Cinewall Hue->ArtNet Network, Cinewall White->ArtN...

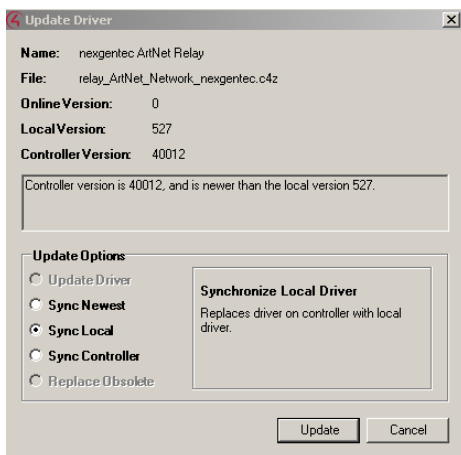
- The relay connections can be used via Programming and have the purpose to reset ArtNet gear if it's not available (over a 3rd Party relay)
- Contact does recall or save all ArtNet values sent out to the different ArtNet networks

## 5. Upgrading from version 4

With version 5 the nexgentec ArtNet drivers will be converted to the new version numbering all newer nexgentec/genesis technologies driver have. Therefore to upgrade add the driver into your drivers folder %USERPROFILE%\Control4\Drivers and open in Composer *Driver -> Manage drivers*.



Highlight each line of the ArtNet drivers and select *Update*. Select then to *Sync Local*



No other work is needed for this driver; additional tasks may be needed in the device drivers.

Only upgrading from V4 to V5 is supported, all other versions are untested and on your own risk

## 6. Device variables

None

## 7. Driver Actions

- Reset driver. Does re-set the driver and restart all device drivers.
- Save ArtNet output state: Does what it says
- Recall ArtNet output state: Does what it says
- Print out device driver info: Prints out all device driver info
- Add ArtNet node: If the driver does not discover the processor/node(s) on start, nodes can be added manually. The fields MAC, Name, IP, Net, and Subnet are mandatory. In the fields *Sending port(s) of the node* and *Receiving port(s) of the node* the ports can be inserted. Multiple ports can be added using the notation 1,2,3. All ports are as seen from the node!
- Remove ArtNet node: With its MAC a node previous inserted manually can be removed
- Poll ArtNet nodes: Sends an ArtNet poll to the network. Replies do not have any effect if the Property *ArtNet poll replies* is set to ignore.
- Print out ArtNet nodes: Prints a list of all found nodes
- Bind all nexgentec drivers: Binds all nexgentec ArtNet drivers in the project to this driver
- Unbind all nexgentec drivers: Unbinds all device drivers

## 8. Device driver installation

See the manual from the device drivers

## 9. Known issues

As mentioned in the Properties section: Higher framerate will cause higher load on the Control4 processor. Director is still a single thread; all drivers have to share the same resources

C4 OS is not a real time operation system. Playing advanced light scenes the driver relies on Director's speed. Having Director busy from other drivers or other tasks may break the timer for this drivers and a noticeable staggering effect may appear. In this case you may want to lower the output framerate.

We have measured the following system load on a EA-5 with one *nexgentec ArtNet Network* driver and 520 *nexgentec ArtNet Dimmer* drivers during ramp of 512 channels: ~14% CPU with refreshing of Navigators

High CPU load will be generated once the dimmer and switch drivers are refreshing the Navigators with light levels. The driver does queue up all tasks and refresh the device driver only if there is a decent gap in the scheduler.

What to do when Controller overloads or lights show staggering effects:

- In big projects you should go down with the framerate until you see the steps during a light ramp. Then go a little higher with the framerate that the steps are not noticeable.
- Possibly have a look to the Directors log to identify what is having Director busy. Also remove every task you can from the main Controller. **Do not run Director and Navigator on the same Controller**

## 10. Updates / Support

Updates are available on: <<[<https://technet.genesis-technologies.ch>>](https://technet.genesis-technologies.ch)>>

Bugs should be reported to: [info@genesis-technologies.ch](mailto:info@genesis-technologies.ch)