



SUNDRAX RGS-X-2D2B-DC ArtGate DMX-Ethernet Converters User Manual

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SUNDRAX RGS-X-2D2B-DC ArtGate DMX-Ethernet Converters



Specifications

DMX512 interfaces	1, 2, 4, 8 or 16
Supported protocols	DMX512, RDM (E1.20), ArtNet (I,II,III,4), sACN (E1.31, draft and release), KiNet (v1 and v2) RTTrPL, HTTP, etc.
DMX data refresh rate	44 Hz default, may be changed if necessary
I/O connectors	Depends on the modification
Max current consumption	0.1 A
Setup	web interface, specialized software ArtGate, ArtNet standard tools
Power supply	~90-250 V, 50/60 Hz or Power-over-Ethernet (PoE)
Fuse	0.1 A

General information

ArtGate is the series of full-featured converters for converting network protocols ArtNet and sACN to light fixtures control protocol DMX512. Through their 1, 2, 4, 8, 12 or 16 DMX ports, LAN interface and Optical port (ArtJet Pro and GigaJet Pro), the devices transmit and receive DMX512 data streams via Ethernet LAN functioning in 10Base-T or 100Base-T mode (100Base-FX in ArtJet Pro, 1000Base-FX in GigaJet Pro).

Compatibility with ArtNet and sACN protocols enables the use of ArtGate devices in a network of heterogeneous devices from other manufacturers.

As well as the standard broadcast data transfer ArtNet, ArtGate devices also support point-to-point data transfer in the local network or via the Internet. Address settings of the device (name, SubNet, Universe) and network settings (IP address, subnet mask, UDP-port), standard software tools for ArtNet networks, such as DMX Workshop, as well as using the web based interface.

Web-interface allows changing advanced settings of ArtGate devices not covered by the ArtNet standard, such as:

DMX signal direction and merge mode for each port physical characteristics (timing) of DMX512 signal data stream transmission and reception modes in ArtNet network

In addition, specialized utility software allows advanced users to assign custom MAC address to the Ethernet interface of the device and restore default settings of the device. ArtGate series is powered by AC ~90-250 V, 50/60 Hz, or from Ethernet using the Power-over-Ethernet technology

(depends on modification).

Safe operation

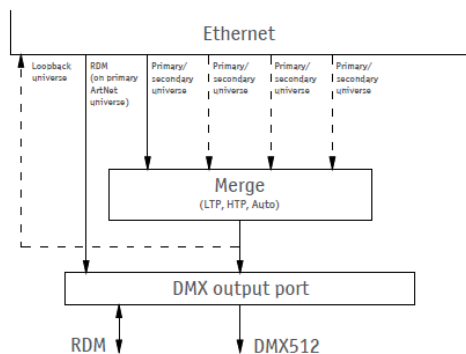
In installation, operation, preventive maintenance and repairs of the device, the requirements of the safety rules must be followed.

- To ensure safe and reliable operation of the devices, please observe the following requirements:
- Use the device only for its intended purpose;
- Do not use devices that shows signs of malfunctioning;
- Avoid strong physical impacts on the device;
- Protect devices and cables from contact with corrosive liquids.
- Whenever a fault is detected in the device, please contact the manufacturer.

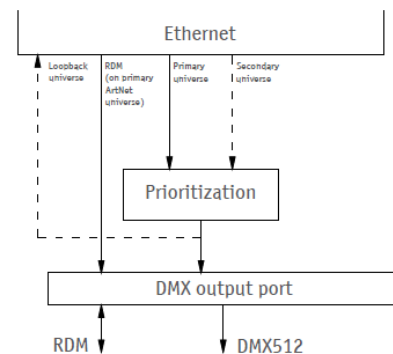
Merging

- HTP: highest takes precedence
- LTP: latest takes precedence
- AUTO: last modified takes precedence – intelligent merging mode
- PRIORITY: for sACN streams with priority tag
- BACKUP: primary/secondary universe backup
- TRIGGER and X-FADE: dedicated channel / dedicated universe controllable merging

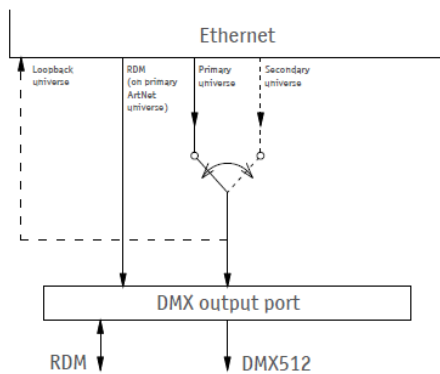
Merging and other output ports procedures for different merge modes are shown in Pic2, Pic3, Pic4, Pic5.



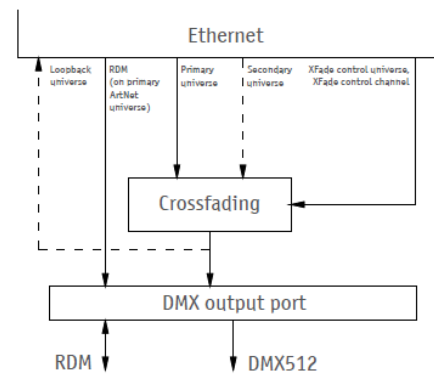
Pic.2 Output port procedures for LTP,HTP, Auto modes



Pic.3 Output port procedures for Priority mode



Pic.4 Output port procedures for Backup mode



Pic.5 Output port procedures for Trigger and XFade modes

Input processing

When configured as input, DMX port of ArtGate can convert DMX512 signal to ArtNet, sACN or other type of universe. Universe type and protocol for input ports is always taken from primary universe settings. Input port can respond to RDM requests. Each port of one device has it's own RDM UID.

Standalone merger

ArtGate devices may be used as standalone (without permanent Ethernet connection) mergers. When 2 or more input ports are configured with the same universe protocol/number, DMX streams from them can be merged and outputted to another output port which must have the same protocol/number too to provide such feature. This configuration may work even if device is not connected to Ethernet.

Trigger inputs

Some ArtGate models have trigger feature. When trigger is activated, static scene stored in non-volatile memory is recalled and set for all DMX ports. Trigger is activated via “dry contact” inputs, which can be configured for working with normally opened and normally closed sensors (smoke sensors, buttons, etc). Each Trigger input can be also configured as alarm input. When alarm is activated, device returns to normal work only after power cycle or manual reset, not just input deactivation.

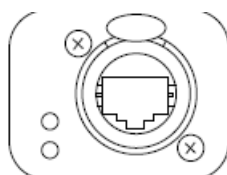
By default, static scenes for all triggers are “all channels to 100%”. User can set up the custom scene on all used DMX ports and then capture and save the scene for necessary trigger.

Connection types

Ethernet connection

Device is connected to the network via RJ-45. All ArtGate devices have two LEDs to indicate the status of the network connection.

If there is no Ethernet connection, both LEDs are off, if network is connected, one LED is constantly on, the other one flashes when data are transmitted and received over the network. Each device has unique IP and MAC addresses. Device's IP address, subnet mask, and other network parameters can be changed, but even in this case, the device is still available on the original IP address (2.x.x.x) for ping and http requests. Thus, even in case of loss of the new IP address, the device can be access on the network using the original IP address through the web-interface.



Pic.6 Ethernet connector

Fiber optics connections

ArtJet devices are equipped with 100 Mbit fiber optics port (duplex SC connectors). Fiber optics port works as another network interface, with functionality similar to Ethernet port. When connected both to fiber optics and ethernet, device acts as a network switch/media converter.

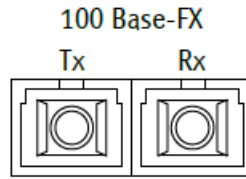


Рис.7 Fiber optics connectors

DMX connections

XLR 5-pin connectors are used to connect external master and slave devices to DMX ports. If necessary, the device can be equipped with XLR three-pin connectors. Each port on the 2 and 4-port devices has 2 connectors — one M connector and one F connector, which allow the port to pass-through the DMX bus. On 8 and 16-port devices and ArtGate Compact, each port has single connector of type F. Each port is equipped with internal 120 ohms terminator which can be enabled via web interface.

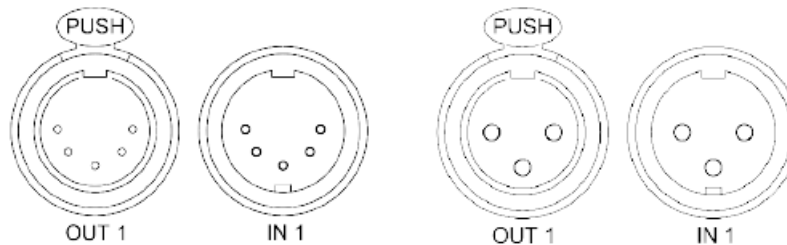


Рис.8 XLR(F) и XLR(M) DMX разъемы (5pins/3pins)

Web interface settings

ArtGate devices support configuring most of their parameters through the Web interface using HTTP protocol (TCP port 80).

Main settings

To access the settings page enter the IP address of the device to the browser. Main settings page of the ArtGate device will be displayed.

ArtGate Pro

Main settings

Indication:

Normal

Blink

Off

Device name:

ArtGate Pro

Device description:

ArtGate, DMX512/Ethernet multifunctional converter

Device status:

Power-on tests successful

ArtNet4 Net address:

0

Ports:

Port	Mode/merging	Pri. unv. protocol	Pri. unv. number	Sec. unv. protocol	Sec. unv. number	Status
DMX 1	Out/HTP	sACN	100	sACN	120	no new DMX data
DMX 2	Out/LTP	ArtNet	1	Disabled	0	transmitting DMX
DMX 3	Out/Auto	ArtNet	2	Disabled	0	no new DMX data
DMX 4	Out/Backup	ArtNet	3	ArtNet	23	transmitting DMX
DMX 5	In	ArtNet	85	Disabled	0	receiving DMX
DMX 6	Off	ArtNet	5	Disabled	0	-
DMX 7	Out/Trigger	ArtNet	78	sACN	1056	no new DMX data
DMX 8	Out/XFade	ArtNet	79	sACN	1053	no new DMX data

Save settings

Set default

Reset

Pic.9

Main settings

www.sundrax.com

- **Indication** – switching LED indication modes:
- **Normal** Indication depending on the current port status
- **Blink** Search mode
- **Off** LEDs are off

Device name

Editable device name (up to 17 characters)

Device description

Editable device description (up to 63 characters)

Device status

Current state of the device

ArtNet 4 Net address

Network number (0-127, only for ArtNet 4)

To save the changes in main settings, click «Save settings».

To restore default values of main settings, click «Set default».

To reset to the current saved values of main settings, click «Reset».

Advanced settings

To edit the advanced settings of the device, click on the link “Advanced”.

Main **Advanced** Network Profiles Firmware

RDM devices:

```

DMX 1 - 1 devices found
          MonId: 2987, DevId: A1153805
DMX 2 - 0 devices found
DMX 3 - 0 devices found
DMX 4 - 0 devices found
DMX 7 - 0 devices found
DMX 8 - 0 devices found
  
```

Start discovery Refresh report

DMX signal timing:

Break, usec: 200 MaB, usec: 20 Data slots: 512 Pause, usec: 0

DMX line terminator:

Port	1	2	3	4	5	6	7	8
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Options:

Frame integrity mode: ☒ ArtNet Subnet-Unv. mode: ☐ ArtNet 4 support: ☒ SACN Release: ☒ KINet v2: ☒

Advanced port settings:

Port	Src. timeout, sec	XFade unv. protocol	XFade unv. number	XFade unv. channel	Loop. unv. protocol	Loop. unv. number
DMX 1	30	Disabled ▼	0	512	ArtNet ▼	60
DMX 2	30	Disabled ▼	0	512	ArtNet ▼	61
DMX 3	10	Disabled ▼	0	512	Disabled ▼	0
DMX 4	10	Disabled ▼	0	512	Disabled ▼	0
DMX 5	10	Disabled ▼	0	512	Disabled ▼	0
DMX 6	10	Disabled ▼	0	512	Disabled ▼	0
DMX 7	10	ArtNet ▼	130	510	Disabled ▼	0
DMX 8	10	ArtNet ▼	130	511	Disabled ▼	0

Triggers/alarms:

Input	Mode	Delay, msec	Action	Status
Trigger 1	Alarm, N.O. ▼	0	Capture scene	open
Trigger 2	Trigger, N.O. ▼	5000	Capture scene	open

Save settings Set default Reset www.sundrax.com

Pic.10
Advanced settings

RDM devices – RDM devices list, connected to DMX ports:

RDM devices – RDM devices list, connected to DMX ports:

Start discovery Searching connected devices

Refresh report Refresh search/list state detected devices

DMX signal timing – sets the parameters of the output DMX signal for all ports:

- **Break**
from 4 to 1000 μ s
- **MaB**
from 4 to 1000 μ s
- **Data slots**
1 to 512
- **Pause**
from 0 to 10000 μ s

DMX line terminator – enables (selected) or disables (cleared) termination resistor between D+ and D- wires of

DMX line on each port.

Options – enable/disable device features

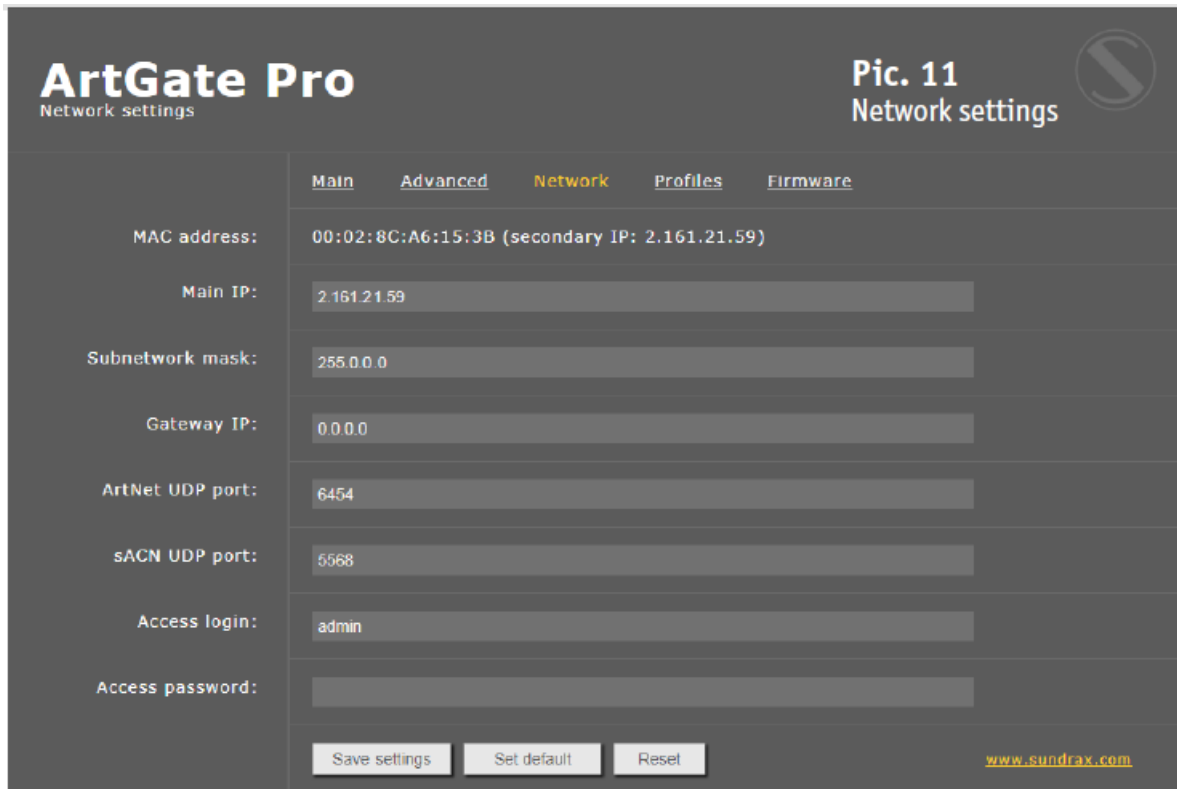
To save the changes in advanced settings, click «Save settings».

To restore default values of advanced settings, click «Set default».

To reset to the current saved values of advanced settings, click «Reset».

Network settings

To edit the network settings of the device, click on the link “Network”.



The screenshot shows the 'ArtGate Pro' web interface for network settings. The title bar includes 'ArtGate Pro' and 'Network settings'. On the right, there is a 'Pic. 11 Network settings' label and a circular icon with a diagonal line. Below the title bar, there are five tabs: 'Main', 'Advanced', 'Network' (highlighted in orange), 'Profiles', and 'Firmware'. The 'Network' tab contains several configuration fields: 'MAC address' (00:02:8C:A6:15:3B (secondary IP: 2.161.21.59)), 'Main IP' (2.161.21.59), 'Subnetwork mask' (255.0.0.0), 'Gateway IP' (0.0.0.0), 'ArtNet UDP port' (6454), 'sACN UDP port' (5568), 'Access login' (admin), and 'Access password' (empty). At the bottom, there are three buttons: 'Save settings', 'Set default', and 'Reset'. The website 'www.sundrax.com' is listed in the bottom right corner.

- **MAC address**

Hardware address and secondary (permanent) IP-address of the device

- **Main IP**

Set the main network address of the device

- **Subnetwork mask**

Set the mask of the IP-subnet

- **Gateway IP address**

Set the network address of the gateway

(if ability to operate via the Internet is required)

- **Art-Net UDP port sACN UDP port**

Set the UDP-port for ArtNet protocol

Set the UDP-port for sACN protocol

- **Access login/password**

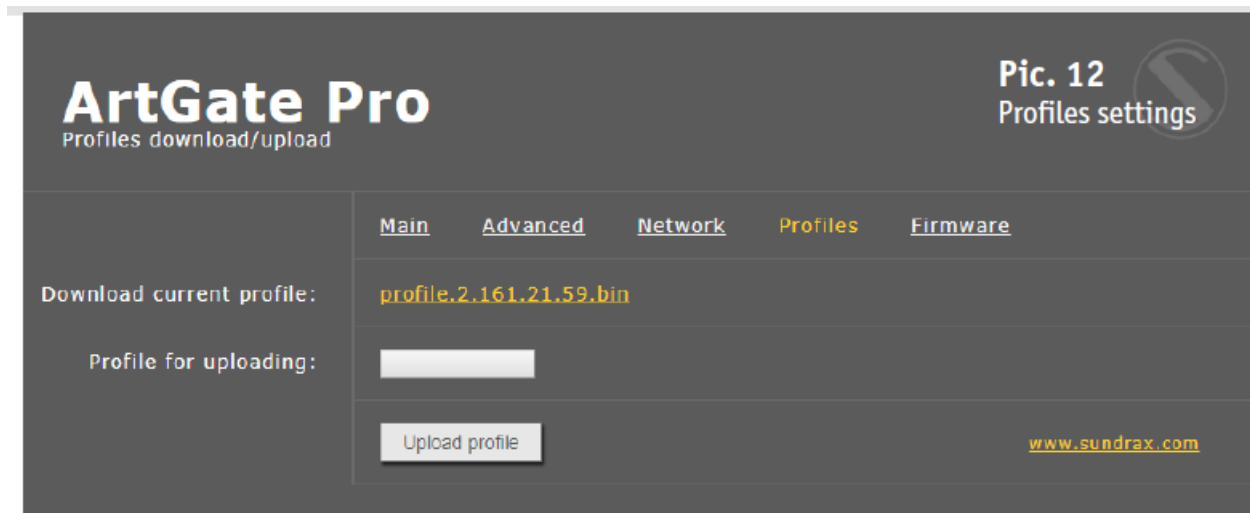
Login and password for access to web-interface of device.

If password is empty, authentication is not performed

To save the changes in network settings, click «Save settings».
To restore default values of network settings, click «Set default».
To reset to the current saved values of network settings, click «Reset».

Profiles

For profile operations, click on the link «Profiles».

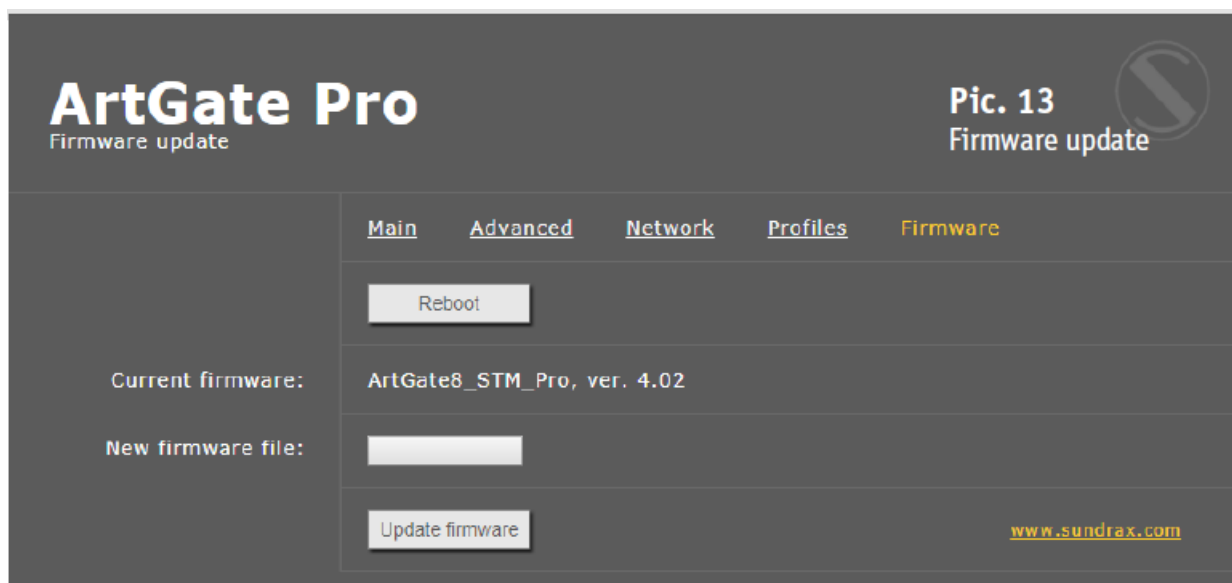


Pic. 12
Profiles settings

- Download current profile Download the current settings as a file
- Profile for uploading Select the file of previously saved profile
- Upload profile To upload the selected profile in the device

Firmware update

To update firmware of the device, click on the link «Firmware».



Pic. 13
Firmware update

After software update downloading, need to accept updating by clicking button «Reboot».

Technical maintenance

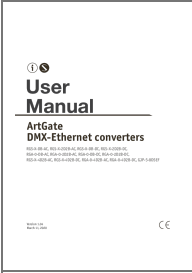
Maintenance, search and troubleshooting should be performed by service personnel. The device should be free from dirt, dents, connecting cables and wires must be intact and securely fastened.

Notes

Please send all your warranty-related questions to support@sundrax.com All Sundrax products are covered by a 36 months warranty.

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Documents / Resources

	<p>SUNDRAX RGS-X-2D2B-DC ArtGate DMX-Ethernet Converters [pdf] User Manual RGS-X-DB-AC, RGS-X-2D2B-AC, RGS-X-DB-DC, RGS-X-2D2B-DC, ArtGate DMX-Ethernet Co nverters, RGS-X-2D2B-DC ArtGate DMX-Ethernet Converters, DMX-Ethernet Converters, Ethe rnet Converters, Converters</p>
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References

- [Sundrax Electronics - Professional Lighting Management](#)