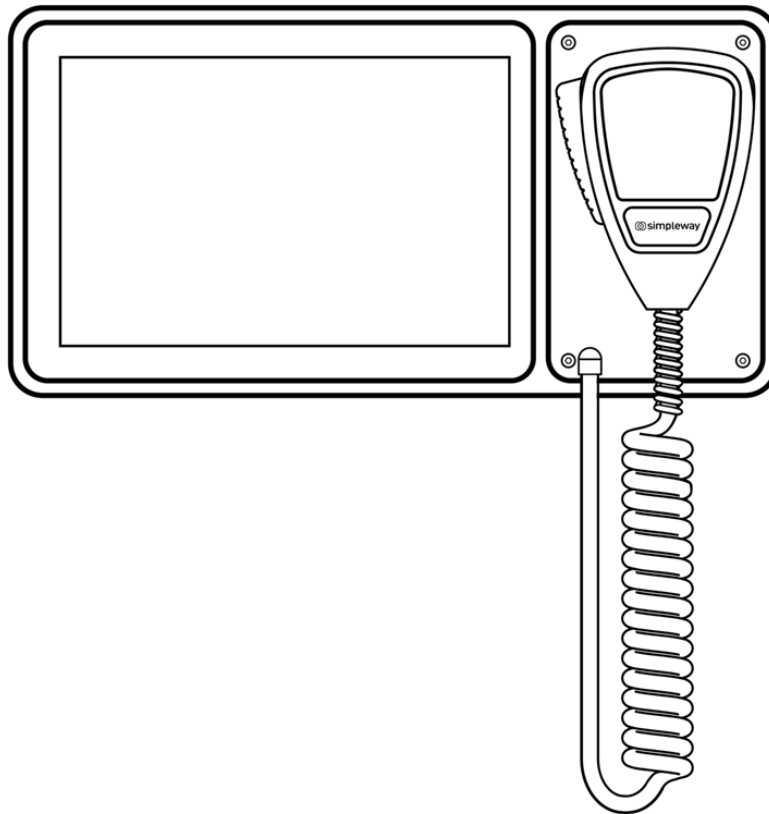




micnode2 – Microphone Station

HARDWARE USER GUIDE



Conventions used in this manual:

- **WARNING:** Information marked ‘Warning’ alerts the user to potential situations that could cause personal injury or death.
- **CAUTION:** Alerts the user to possible damage to equipment or property. By not following the instructions, the damage caused to the equipment may not be covered under warranty.
- **IMPORTANT:** Indicates instructions or information that are vital to the successful completion of the procedure.
- **NOTE:** Is used to indicate additional useful information.



The intent of the lightning flash with arrowhead symbol in a triangle is to alert the user to the presence of un-insulated "dangerous" voltage within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to humans.



The intent of the exclamation point within an equilateral triangle is to alert the user to the presence of important safety, and operating and maintenance instructions in this manual.

WARNING

1. To prevent the risk of electric shock, only qualified personnel should remove the cover.
2. Before servicing, disconnect the power supply.
3. Don't expose the device or its equipment to water, rain, or any other liquids or liquid cleaners, as it may cause fire or electric shock.
4. Use only one power supply to the microphone station at a time.



IMPORTANT SAFETY INSTRUCTIONS



- Operating temperature of the device - range 32°F – 122°F (0°C–50°C), storage temperature - range 14°F to 140°F (-10°C–60°C).
- Power should only be supplied over Ethernet (PoE) IEEE 802.3af.
- Relative humidity range during storage: 10% to 85% humidity (non-condensing).

- Read these instructions.
- Keep these instructions.
- Heed all warnings.
- Follow all instructions.
- Do not use this apparatus near water.
- Clean only with a dry cloth.
- Do not block any ventilation opening. Install in accordance with the manufacturer's instructions and all federal, state, and local municipal codes.
- Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
- If your unit uses an auxiliary power supply, do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.

- Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
- Only use attachments/accessories specified by the manufacturer.
- Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.
- Adhere to all applicable, local codes.
- Consult a licensed, professional engineer when any doubt or questions arise regarding a physical equipment installation.

The product is not intended to be installed as a system for providing emergency voice communication or to be installed in areas specified by ANSI/ NFPA 72, "National Fire Alarm Code."

The device has been tested for compliance:

- ICES-003:2020-10
- EN 55032:2015 / DIN EN 55032:2015/A11:2021 Electromagnetic compatibility of multimedia equipment – Emission Requirements / (CISPR 32:2015/AMD1:2019)
- ENT 55035:2017 / DIN EN 55035:2017/A11:2022 Electromagnetic compatibility of multimedia equipment – Immunity requirements / (CISPR 35:2016)



FCC Statement

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules.

These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

RoHS Statement

Directive 2002/95/EC – Restriction of Hazardous Substances (RoHS)

Unpacking

1. micnode2 microphone station with an 8-inch touch panel (1920x1200)
2. Handheld microphone
3. Wall-mounting station holder
4. Six screws for attaching the microphone station to the holder
5. Two terminal blocks for audio and contact cables

Optional accessories

1. Desktop stand
2. micnode aux extension unit

INTRODUCTION

micnode2 microphone station is a **paging station with a built-in 8-inch touch screen** and customizable user interface for advanced applications. It is delivered with a handheld microphone. The device is wall-mounted or can optionally be placed on a desk using the stand accessory. It is built on top of the nnounce secure and scalable audio platform.

micnode2 is an **easily integrable network device** that can communicate over the network using all contemporary audio standards such as AES67 or RTP. It connects to the nnounce platform and Q-SYS audio system over LAN networks.

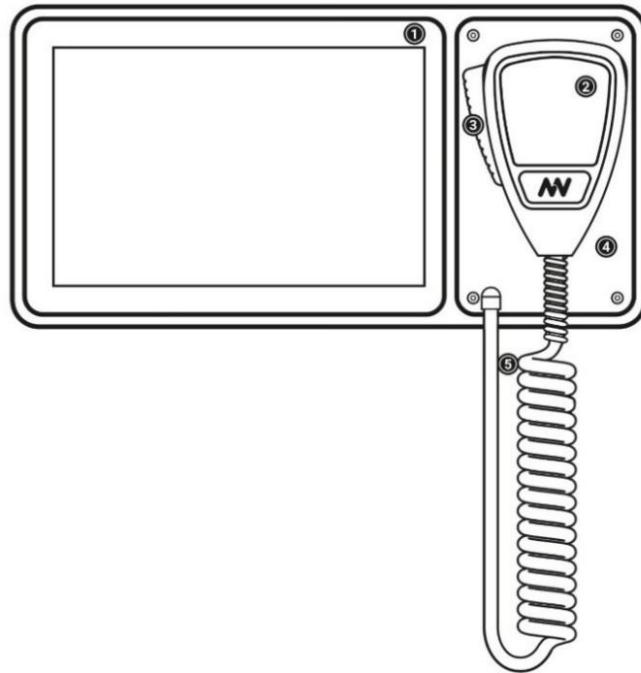
The device provides paging services such as **push-to-talk (PTT), live paging and prerecorded announcements** for being played in configured zones. The station can be configured within the Q-SYS audio system using a plugin in the Q-SYS designer.

This manual is to be used for providing a product overview of the hardware components and their functions in the first part, and in the second part installation and configuration instructions.

FEATURES

A. Front panel

1. Touch panel - 8-inch
2. Handheld push-to-talk microphone
3. PTT button for live call activation
4. Magnetic docking plate for microphone
5. Microphone cable



Touch screen

The 8-inch touch display shows the user interface operating the microphone station. For more information, see the chapter on *User Interfaces* setup. Use your fingers to touch the screen.

CAUTION: Don't use any sharp objects on the screen. Clean the screen with static-free cleaning cloths only.

Microphone

The handheld push-to-talk microphone is available with the handheld microphone station models. This microphone is attached to the microphone station by a magnetic plate. The Talk/Start button is directly on the microphone.

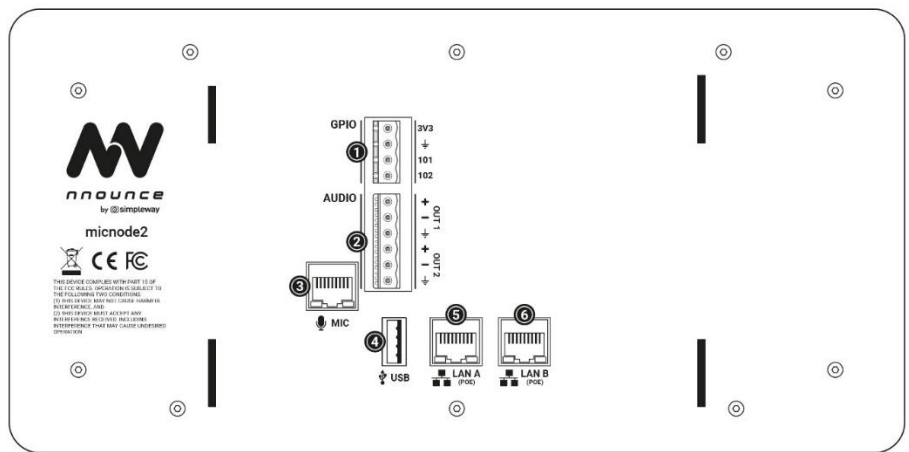
Magnetic Microphone Docking Plate

The micnode2 microphone station uses a magnetic docking plate to hold the hand-held microphone. Just place the back of the microphone up against the plate and let it go!

B. Rear panel

1. Protected GPIO
2. Balanced audio output
3. Rear Aux microphone station input
4. USB
5. LAN A, PoE
6. LAN B, PoE

IMPORTANT: USB port serves only for recovery purposes.



Power

The LAN cables connect the microphone station to the network. This enables audio and data exchange as well as receiving power from the LAN network via IEEE 802.3af compliant power sourcing equipment (PSE), also known as Power-over-Ethernet (PoE).

Inputs and outputs

On the rear panel of the micnode2 microphone station, it is possible to connect a variety of auxiliary audio I/O and GPIO (General Purpose Input Output). Different devices or accessories by can be connected, e.g. a secondary microphone or an MP3 audio source can be added.

MICROPHONE STATION CONFIGURATION AND SETUP

The micnode2 device utilizes power over Ethernet, combining power supply and communication. Therefore, begin by connecting the device to your network with a LAN cable and then proceed to establish the network connection. Access the nnoounce configuration UI to define the LAN setup. If you are incorporating the micnode2 station within a Q-SYS installation, you will perform further steps in the Q-SYS designer and download the micnode2 plugin. This configuration is auto populated to the nnoounce ecosystem and micnode2 station and vice-versa. To complete your configuration, set up streams and define the UCI you will use for paging from the station, or you can use the built-in paging dashboard.

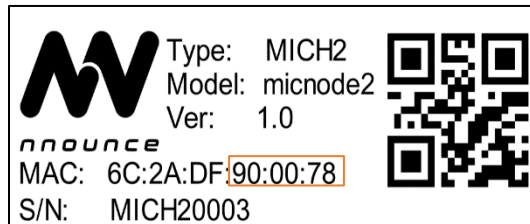
Connect the Device

Connect your micnode2 device to your network with a data communication cable CAT5 with a RJ45 connector. The network switch port needs to conform to IEEE 802.3af standards as the device uses power over ethernet.

CAUTION: The device uses power over ethernet (PoE) and requires a network switch port complying with IEEE 802.3f standards.

NOTE: Use the LAN B port for a secondary connection if required.

1. Connect the device with the LAN A port.
NOTE: Ensure that the locking tab on the plug of the cable snaps into the RJ45 connector of the device rear panel.
2. Connect the device to the network, with DHCP enabled.
3. Use a computer with an Internet browser and search for your micnode2 device by typing into the computer the URL <https://micnode2-> and the last 6 digits of the MAC address of your device, which you can find on the product sticker of your device. Example: <https://micnode2-900078> or <https://micnode2-900078.local>
 - **IMPORTANT:** Instead of 900078 enter the last 6 digits of the MAC address which you can find on you micnode2 device.



- **NOTE:** The device is using mDNS.
4. Your web-browser shows the login page of your micnode2 device.

5. Enter credentials into the nnonce configuration user interface:



IMPORTANT: Default credentials admin/simpleway, default PIN code is 23646

Now you are able to access the configuration settings of the device and continue with interface configuration.

Interface Settings

After login into the nnonce configuration UI, establish a connection between your new micnode2 station and your network. Configure the LAN A and LAN B ports in the *Interfaces* section.

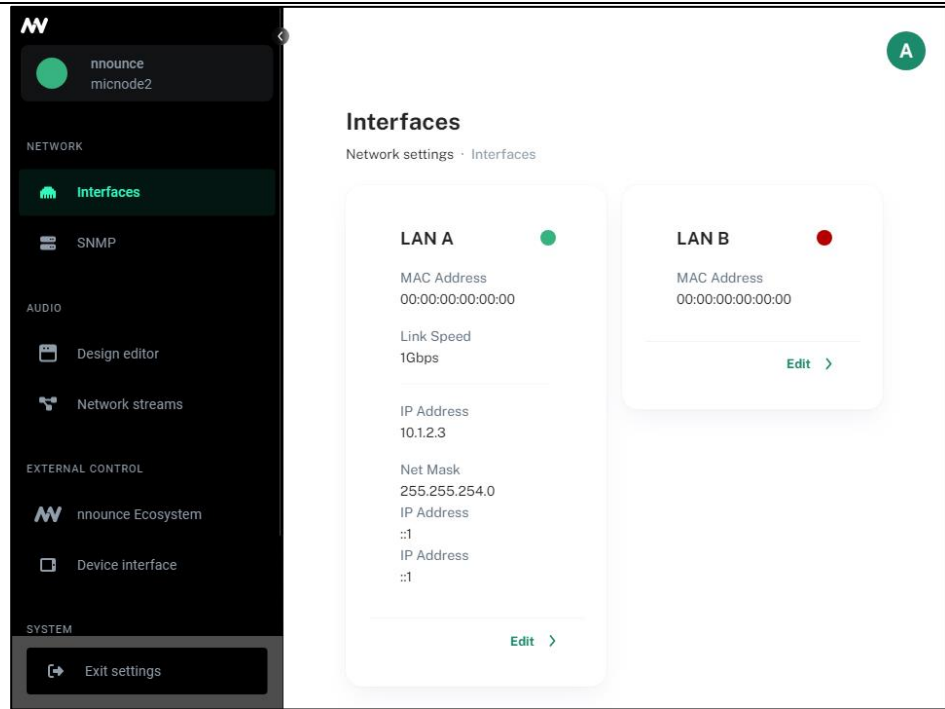
Choose between *manual* and *auto mode* setting:

- *Manual* - user enters IP Address, Net Mask and default Gateway.
- *Auto* - DHCP server needs to be available to obtain network settings automatically.
- *Off* mode turns the port off.

IMPORTANT: You will need the device's IP address, MAC address from your device which you find on the rear panel.

NOTE: Navigate backwards or cancel your steps with the Back function in your browser.

A. Navigate in the left-hand Menu to the **Interfaces** section. You can preconfigure two LANs A and B, see rear panel ports.



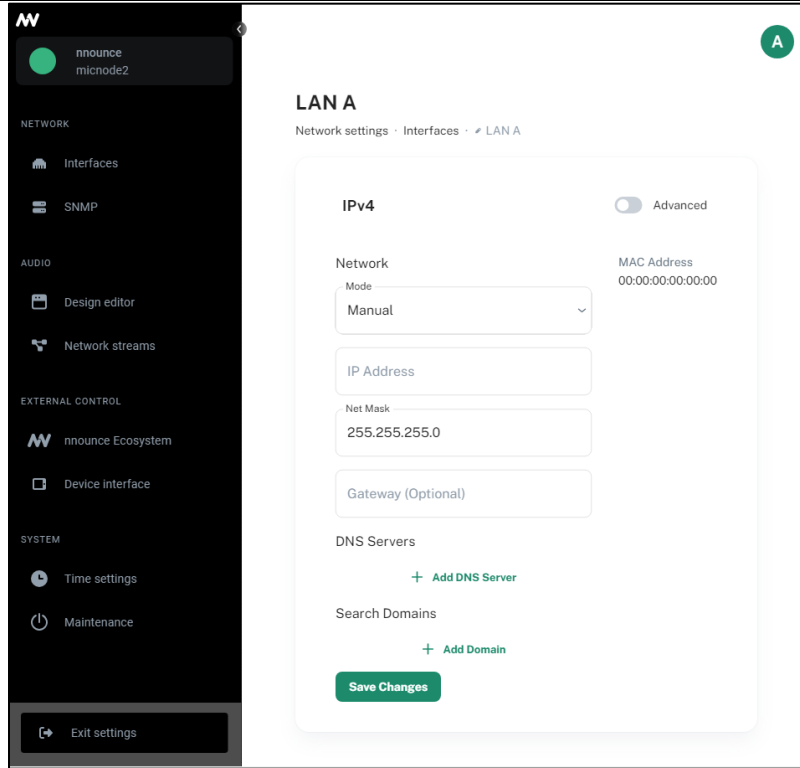
B. Configure the interface in the *Manual mode or Auto mode (DHCP)*.

Manual mode

C. Fill in the fields:

- IP Address
- Net Mask
- Other fields are optional.
- **Static routes** for remote networks that need to be reached via the LAN adapter.
- **DNS server** and **Search domains** are assigned by the DHCP server.

Click on *Save Changes* button to confirm your configuration.

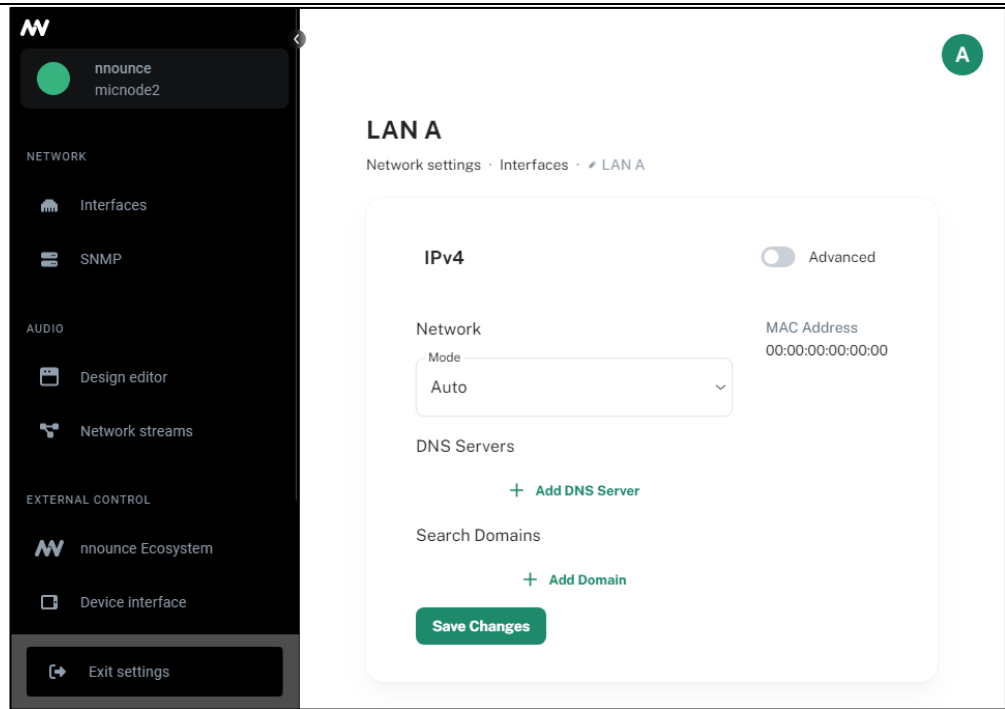


Auto mode

D. Automatically obtain from DHCP server:

- IP address
- Net Mask
- Gateway
- **Static routes** for remote networks that need to be reached via the LAN adapter.
- **DNS server** and **Search domains** are assigned by the DHCP server.

Click on *Save Changes* button to confirm your configuration.



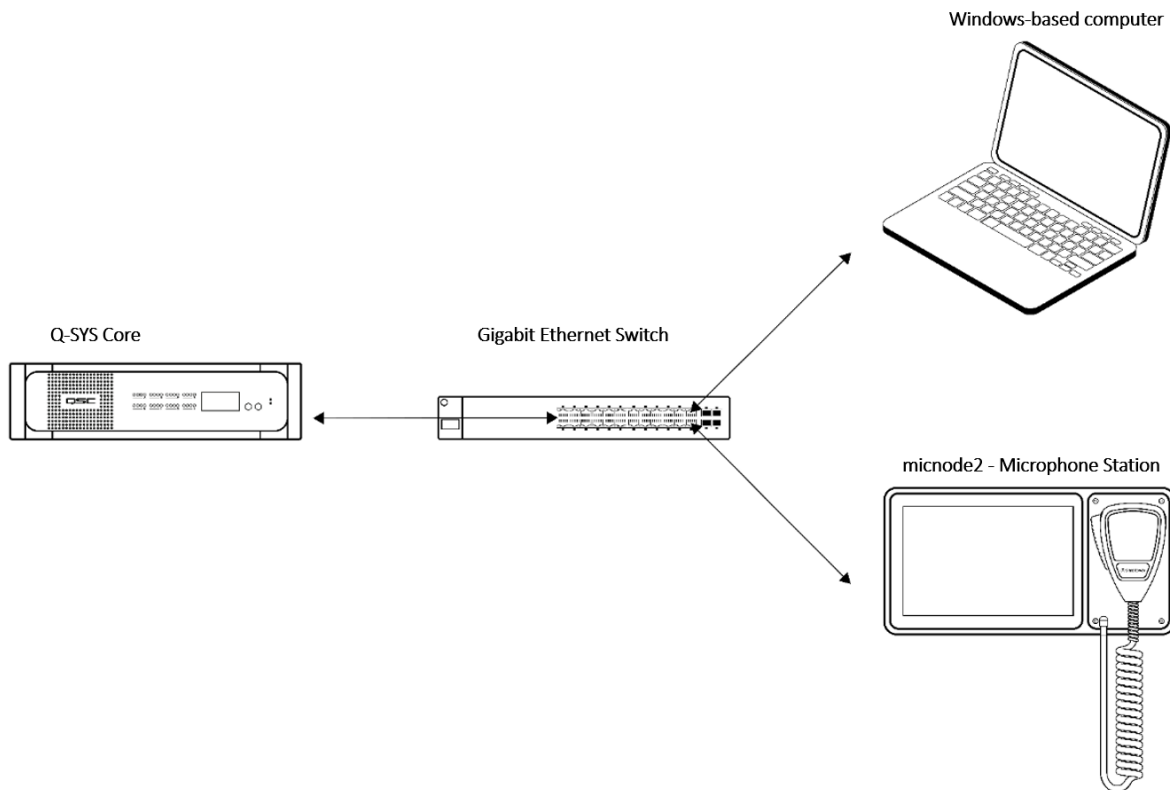
IMPORTANT: The option *OFF* disables the port.

Q-SYS ECOSYSTEM INTEGRATION

In the previous chapter you connected your micnode2 microphone station to the network via a standard ethernet cable. To add your new device to the Q-SYS audio network, it should consist of:

- *Q-SYS Core* and further Q-SYS peripherals,
- *Windows-based computer* for Q-SYS designer network setup, not required for runtime operation,
- *Gigabit Ethernet Switch* with PoE ports.

Network overview:



NOTE: Q-SYS designer version 9.9.0 pictures used in this manual are for illustration purposes only.

To make your microphone station operable within the Q-SYS ecosystem, follow the steps which are described in more detail in the chapters below:

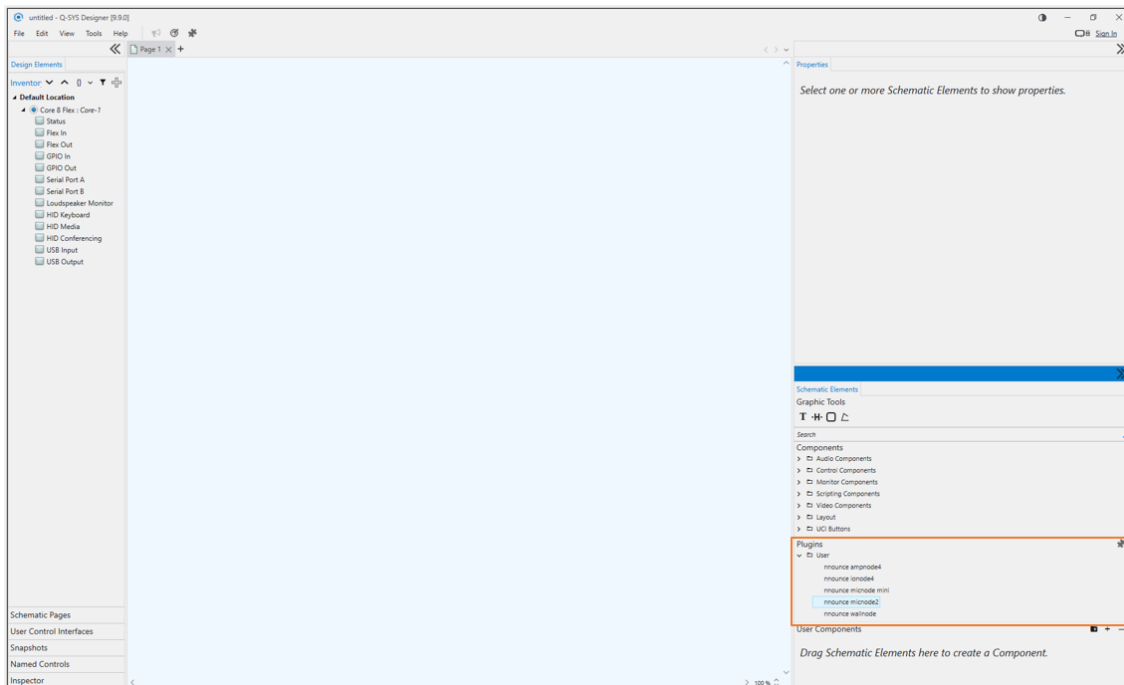
1. **Download Q-SYS plugin** for micnode2,
2. **Configure the plugin** in Q-SYS designer,
3. Set up **streams**,
4. Configuration of **user interface**:
 - a. Using the built-in paging dashboard or
 - b. Using an external application webpage (e.g. Q-SYS UCI).

Q-SYS Plugin – Download & Configuration

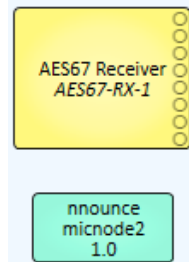
To configure the micnode2 microphone station, you will need to install the respective plugin for Q-SYS designer so that you can then set up the device's properties.

IMPORTANT: Configuration from the Q-SYS designer is auto populated to the nnounce configuration UI and thus your micnode 2 device.

1. The nnounce **micnode2 plugin for Q-SYS designer** can be obtained from:
 - a. Q-SYS marketplace,
 - b. nnounce webpage in the Download center.
2. The downloaded file with the plugin needs to be placed on your computer in the folder:
C:\Users\username\Documents\QSC\Q-Sys Designer\Plugins
3. Open your **Q-SYS designer**.
4. Find the **micnode2 plugin** in the right panel below and drag and drop it into your design.



Example design:



5. Setup the **properties of your micnode2 microphone station** –

NOTE: Properties are opened by simple click on the micnode2 item in the right-hand panel.

- **Zone Group Count**- define the number of paging zones for the mic station.
- **Configuration Mode** – select stream configuration mode:
 - **Basic** – default micnode2 design is applied and stream configuration is predefined for you.

NOTE: An existing default configuration is not overwritten.

- **Advanced** – manual design and steam configuration. Streams Net Tx and Net Rx channel numbering needs to be correct according to conventions applied. Default design is applied when no other design is created.
- **Unit Id** – number your device, it is important to assign a unique number, we recommend ascending numbering of your microphone stations.
IMPORTANT: The number is further used for stream configuration.
- **Show Debug** – set level of debug mode.

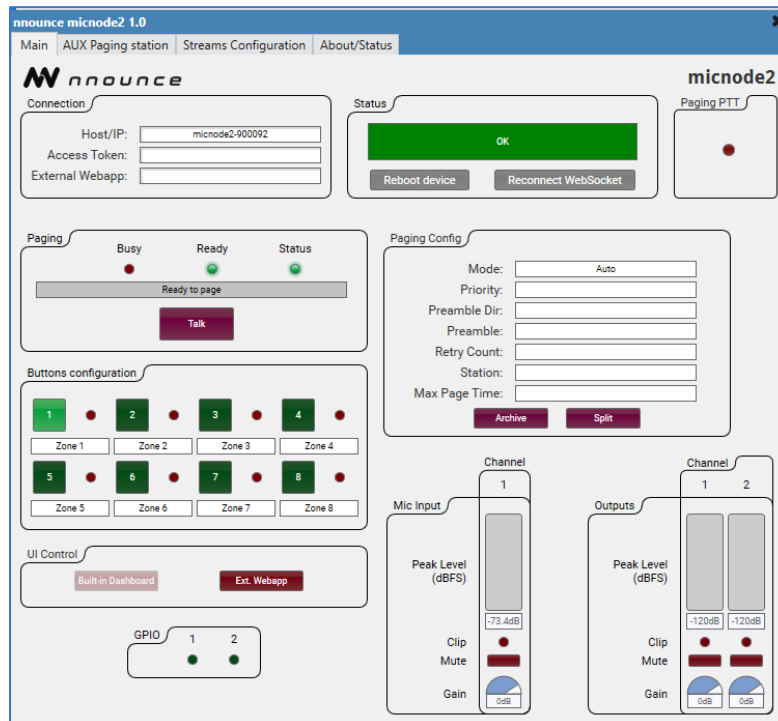
Properties	
nnounce micnode2 Properties	
Connection Mode	Web-Socket
Enable Paging Config	Yes
Zone Group Count	8
Telemetry Poll Interval	200 ms
GPIO 1 Mode	Input
GPIO 2 Mode	Input
Configuration Mode	Basic
Unit Id	5
Show Debug	No
Graphic Properties	
Label	nnounce micnode2 1.0
Position	475,561
Fill	
Script Access	
Code Name	nnouncemicnode2
Script Access	None

NOTE: Connection Mode will be selected based on Q-SYS version. In older versions TCP socket needs to be manually selected. Web-Socket with encryption is supported since Q-SYS version 9.8.

6. Create your design in Q-SYS or add the micnode2 to your existing audio configuration. Make sure your design is disconnected.
7. Save to core & Run, after that open the micnode2 plugin detail and set **Host/IP** of the micnode2 device.

NOTE: For secured Web-Socket connection it is required to use domain name of the device.

IMPORTANT: Use the host as defined in the Connect the Device chapter above – micnode2 dash and the last six numbers of the station’s MAC address. *Example:* micnode2-900078

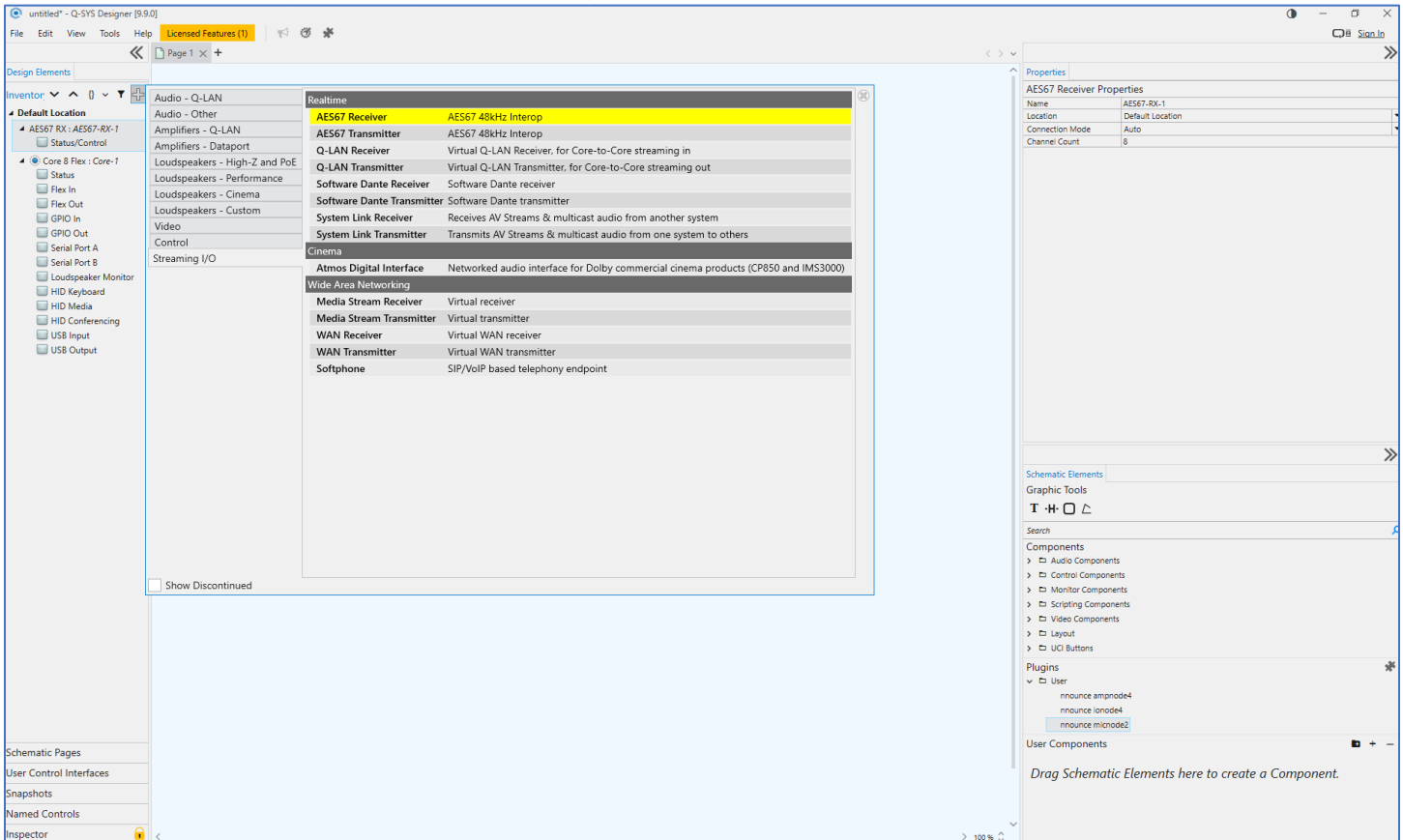


7. Upon successful connection status field should be OK.

Stream Configuration

Create an AES67 stream in the Q-SYS designer. Select first the component and then configure it in the micnode2 plugin.

1. Add the stream component to your Q-SYS design:



2. Set up stream properties:

Properties	
AES67 Receiver Properties	
Name	AES67-RX-1
Location	Default Location
Connection Mode	Manual
Channel Count	1
Graphic Properties	
Label	AES Receiver main
Position	33,593
Fill	
Script Access	
Code Name	AES Receiver main
Script Access	All

IMPORTANT: Streams need to have *Script access* set to the value *Script*. In older Q-SYS designer versions Script access is not visible in Stream properties. Rename the stream in a disconnected design. Only after that the stream is visible in the micnode2 plugin.

- Once the Stream component is set up, switch to the **micnode2 plugin** and configure the **Streams Configuration section**. Based on the chosen Configuration **Mode Basic or Advanced** in mic station *Properties*, the values are either prefilled in or you can set up the values manually.
Basic mode has a default design and preset ports, in the *Advanced* mode you create your own design and set manually your stream configuration.

Option: Basic Mode

- The multicast address is filled in automatically. In the Basic mode the *Pattern* is the IPv4 first and second byte and the last number is your micnode2 *Unit ID*.
NOTE: This field is editable but prefilled, changes are visible in the stream IP address fields.
IMPORTANT: Unit ID is a number you have assigned to your device in the Properties section. It is important to assign a unique number, we recommend ascending numbering of your microphone stations.
- Select your streams from the dropdown.
IMPORTANT: The stream name needs to include TX for transmitter streams and RX for receiver streams.
- Confirm your configuration with the *Submit* button.
NOTE: The field below the Submit button will show the progress.

The screenshot shows the 'Streams Configuration' page of the 'nnounce micnode2 1.0' application. The page has a navigation bar with 'Main', 'AUX Paging station', 'Streams Configuration', and 'About/Status'. The 'Streams Configuration' section is active, showing the 'nnounce' logo and 'micnode2' text.

IPv4 Multicast Address: Pattern: 239 | 255 | .x.1

nnounce Input Stream Mapping: Output Stream: Media_Stream_Transmitter_MS-TX-1

	Protocol	IPv4	Port	Channel	Ch. Count
Analog Output 1					
Analog Output 2					

nnounce Output Stream Mapping: Input Stream: AES67_Receiver_AES67-RX-1

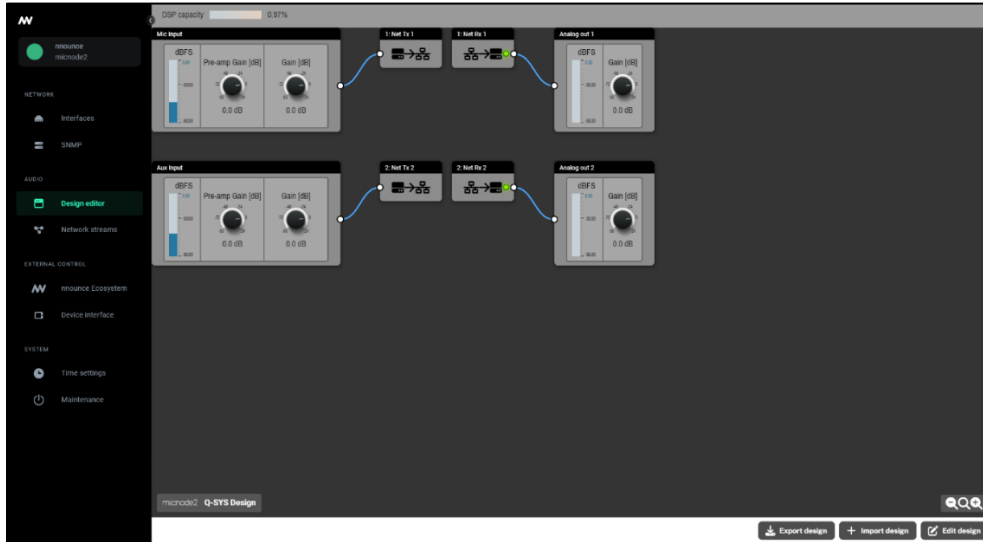
	Protocol	IPv4	Port	Channel	Ch. Count
Mic & Aux Input 1	AES67	239.255.1.1	6002	1	2
Mic & Aux Input 2	AES67	239.255.1.1	6002	2	2

Submit

The **nnounce configuration UI** takes over the information from Q-SYS. In the Basic mode the default design is used in the DSP designer. Manual changes by the user are overwritten with the default design after reconnecting to the WebSocket. The *Network Streams* section shows the streams as configured in the Q-SYS Designer.

IMPORTANT: Do not make any changes in the nnonce configuration UI- DSP designer and Network stream- to avoid malfunction.

Default DSP design:



Option: Advanced Mode

The Advanced mode lets you set up manually your micnode2 device’s protocols, IP addresses, ports etc. for your streams.

1. Open the *Streams Configuration* section of your micnode2 plugin.

IMPORTANT: No values are auto filled in.

nnounce Input Stream Mapping					
	Protocol	IPv4	Port	Channel	Ch. Count
Analog Output 1	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
2	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

nnounce Output Stream Mapping					
	Protocol	IPv4	Port	Channel	Ch. Count
Mic & Aux Input 1	AES67	239.255.1.1	6002	1	2
2	AES67	239.255.1.1	6002	2	2

Submit

Config saved.

2. Map your stream/s:
 - a. *Protocol* – stream protocol,
 - b. *IP address* – fill in the address depending on multicast or unicast stream,
 - c. *Port* – stream port number,
 - d. *Channel* – define the particular channel of the stream,
 - e. *Ch. Count* – sets the total number of channels of the stream.

IMPORTANT: micnode2 stream configuration needs to correspond to receiver and/or transmitter configuration in your Q-SYS designer.

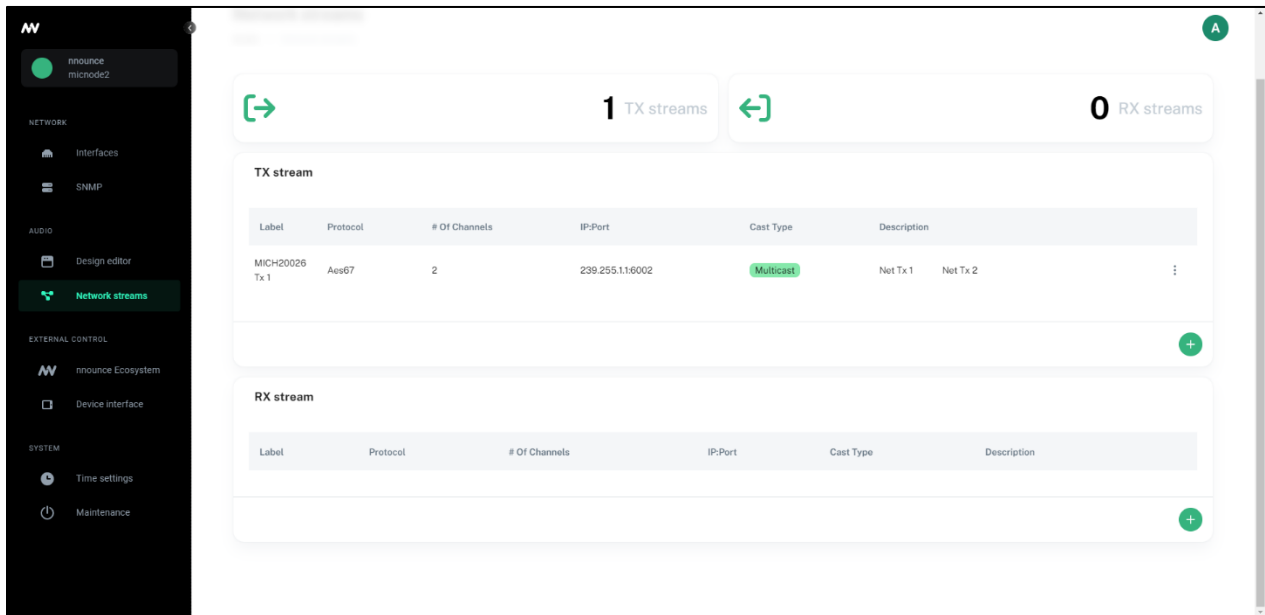
3. Confirm your configuration with the *Submit* button.

NOTE: The field below the Submit button will show the progress and validation messages in case of any connection errors

The **DSP designer** in the **nnounce configuration UI** takes over the design from Q-SYS only unless no custom design is created by the user. The *Network Streams* section shows the streams as configured in the Q-SYS designer.

- *TX stream* – transmits audio to other devices, output.
- *RX stream* – receives audio from other devices, input.

Example of network stream configuration in nnounce configuration UI:



User Interfaces

The micnode2 device can be operated with Q-SYS by the user in the following ways:

- Using the built-in paging dashboard,
- Using an external application webpage (e.g. Q-SYS UCI).

NOTE: The user interface mode can be configured in the Q-SYS plugin or the administrative interface – nnounce configuration UI of the microphone station.

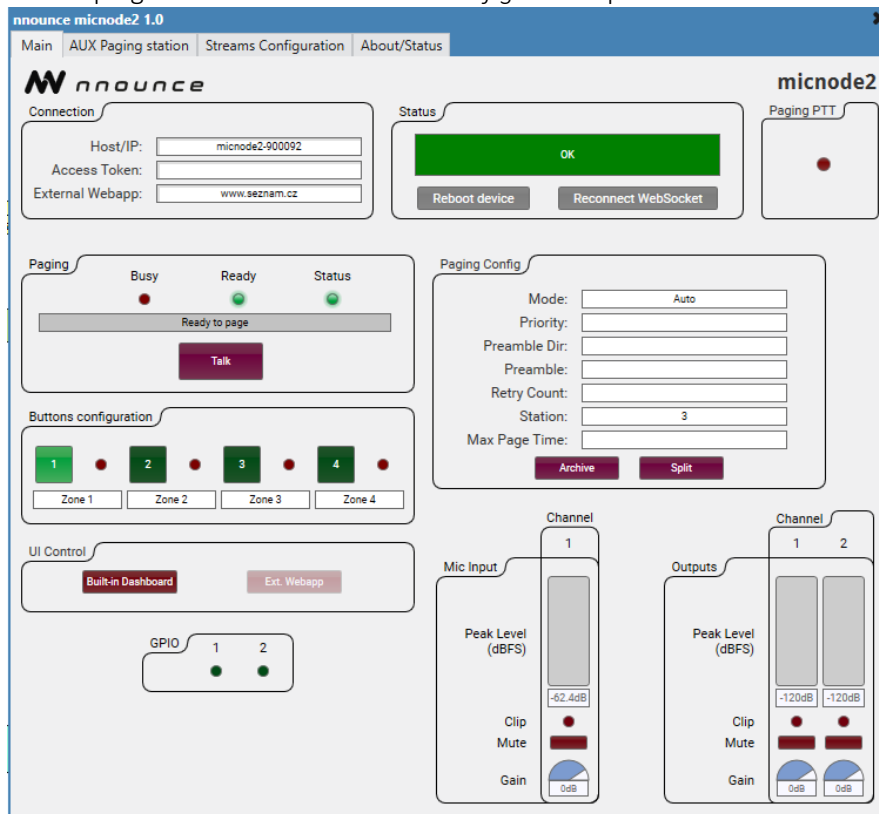
Using Built-in Paging Dashboard

To use the built-in paging dashboard of the micnode2 microphone station, configure zones in the Q-SYS designer micnode2 plugin.

- Go to **micnode2 plugin Properties**. Make sure the design is disconnected.
- Set the *Enable Paging config* value to “Yes”.
- Define the desired number of *Zone Group Count*:

Properties	
nnounce micnode2 Properties	
Connection Mode	Web-Socket
Enable Paging Config	Yes
Zone Group Count	4
Telemetry Poll Interval	200 ms
GPIO 1 Mode	Input
GPIO 2 Mode	Input
Configuration Mode	Basic
Unit Id	1
Show Debug	No
Graphic Properties	
Label	nnounce micnode2 1.0
Position	475,561
Fill	
Script Access	
Code Name	nnouncemicnode2
Script Access	None

4. Save to core & Run your design and then open the micnode2 plugin.
5. Configure zone buttons in the plugin window in the *Buttons configuration* part.



Zones are now ready to use in micnode2 microphone station.

Announcement Triggering

Once the network settings and configuration including zones are set in Q-SYS designer, Live paging can be triggered with the PTT button.

IMPORTANT: Which mode is used depends on Paging configuration of your micnode2 device in Q-SYS designer.

A. Select zone/s:

- **Green** zones are selected for paging,
- **Grey** zones are not selected for paging.

09:17:05

Zones selected: 7

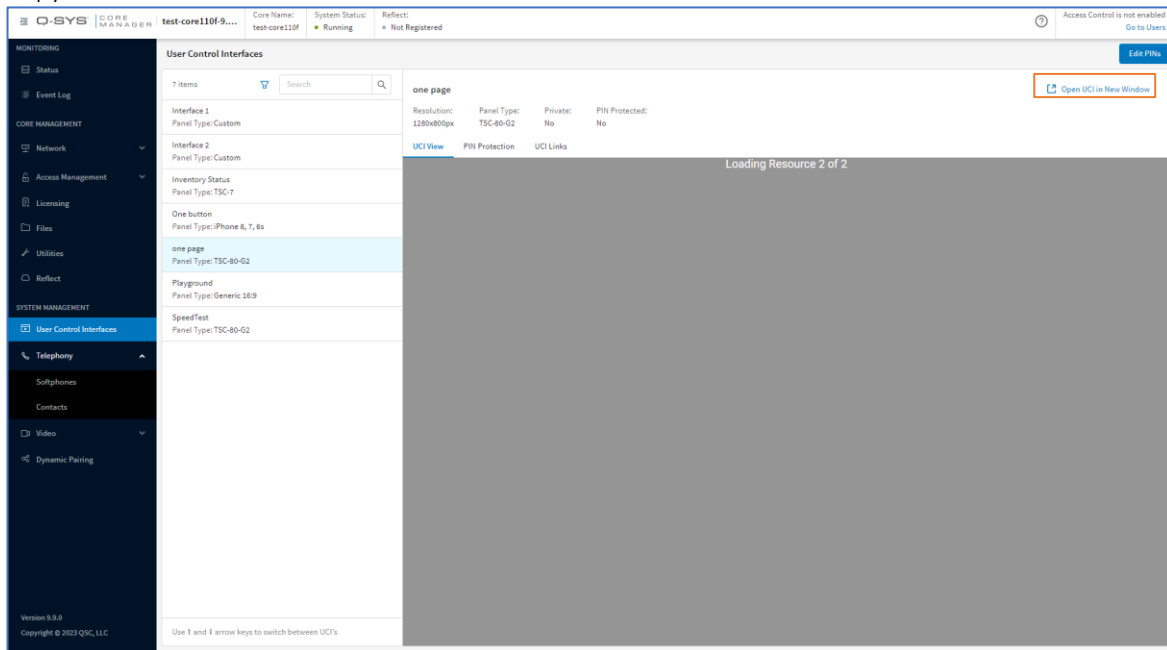
Zone 1	Zone 2	Zone 3	Zone 4
Zone 5	Zone 6	Zone 7	Zone 8
Zone 9	Zone 10	Zone 11	Zone 12
Zone 13	Zone 14	Zone 15	Zone 16

B. Talk/Start button:
Press the Talk/Start button on the microphone side.

Using Q-SYS UCI

To use a Q-SYS UCI for paging from the micnode2 device, create the UCI parameters in Q-SYS designer.

1. Create your **UCI** (User Control Interface) and drag and drop the buttons from the plugin.
2. In **Q-SYS Core Manager** find in section System management / User Control Interfaces your UCI:
 - a. Click in right upper corner on *Open UCI in New Window* – new window opens,
 - b. Copy the UCI URL.



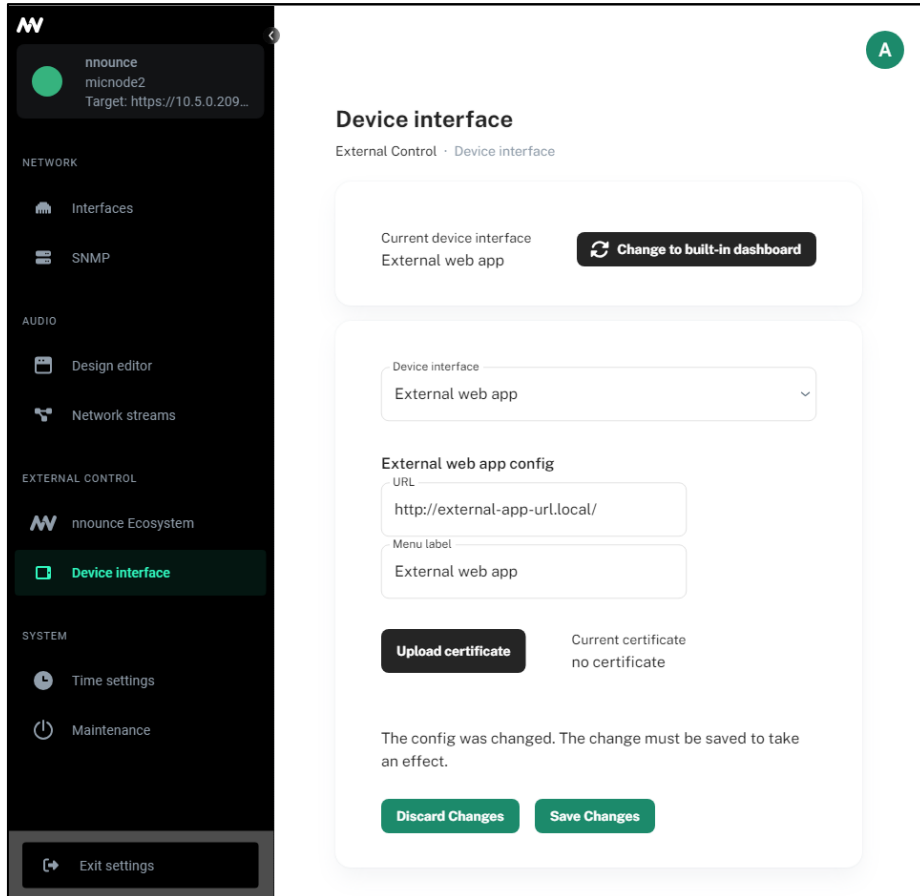
3. Paste the URL back Q-SYS designer in micnode2 configuration or in nnoounce configuration UI in section Device interface, see more in chapter Extern application configuration below.

IMPORTANT: UCI shall be designed for resolution 1920 x 1200 resolution.

Using External Application Configuration

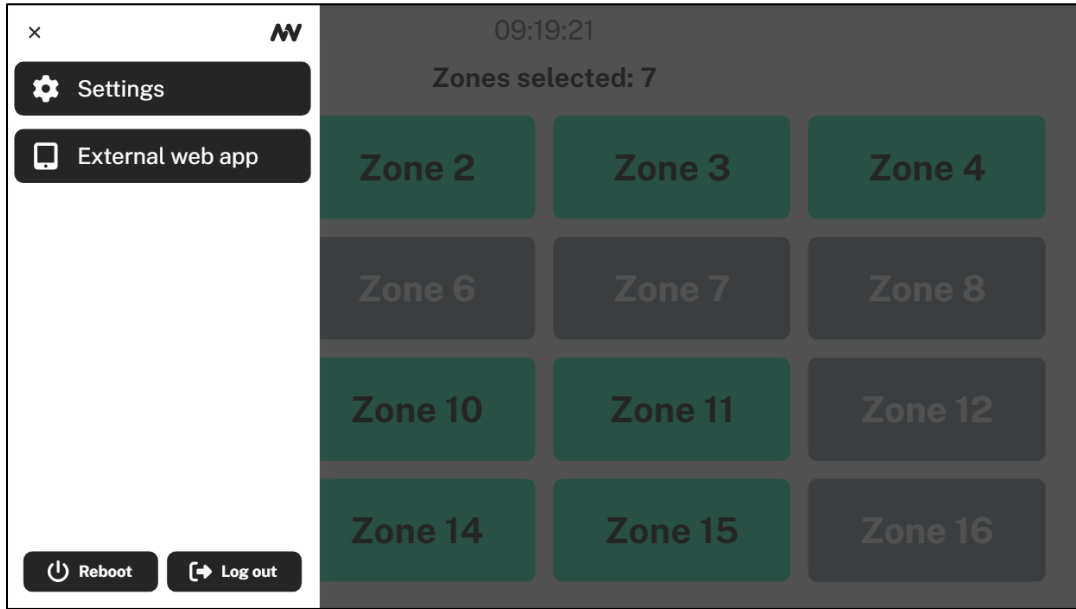
You can add any external web application which will manage the paging process from your micnode2 microphone station.

1. Open the nnounce configuration UI of your micnode2 device.
2. Navigate in the left-hand Menu to the **Device interfaces** section.
3. Add the **URL** of the paging web application and define the **Menu label** which you will see in the micnode2 menu.



- 4.
5. Save your changes.

Example of micnode2 microphone station Menu configuration:



IMPORTANT: To change the UI configuration, click on the button *Change to built-in dashboard*.

Recovery from USB

Micnode2 device recovery from USB provided by nnounce support team.

Note: Not all USB flash discs versions are compatible, use version 3.1 or older.

1. Insert USB stick to the USB port on the rear panel.
2. Power off and then power on the device by unplugging and again reconnecting the LAN cable on the rear panel.
3. Progress and result are shown on device display.
4. REMOVE USB stick.
5. Finish the process by once more putting power supply (as in step 2).

Firmware Update

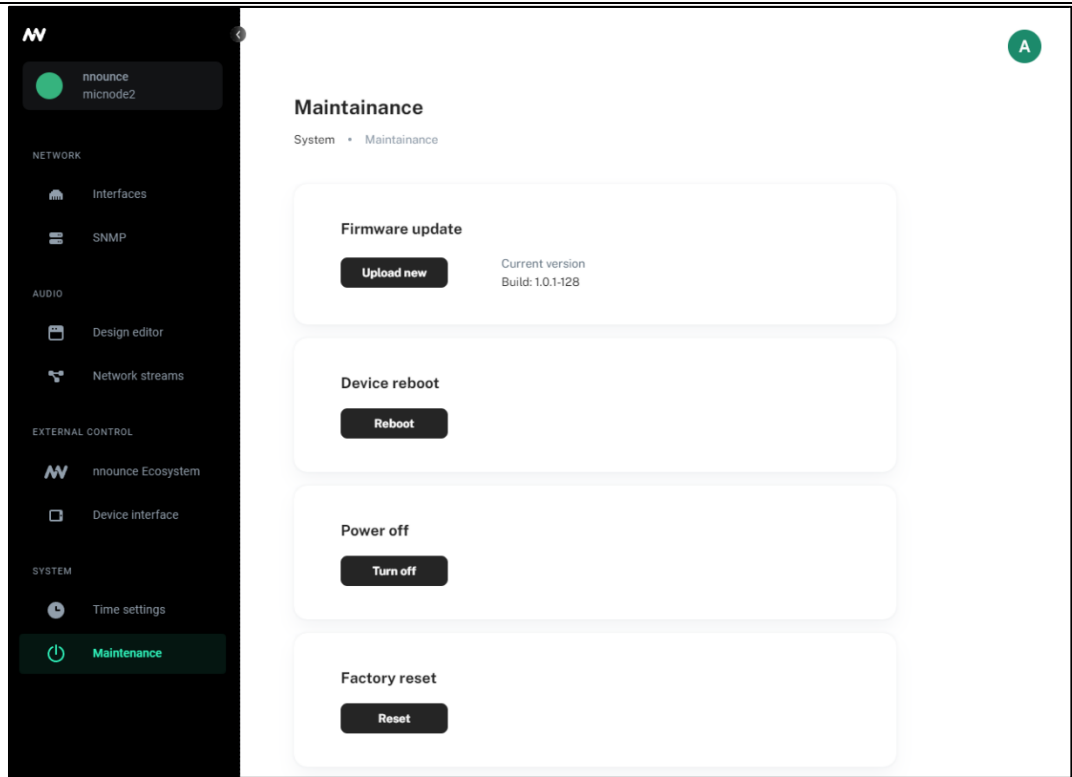
Firmware update of your micnode2 device is available in the *Maintenance* section.

The installation file is provided by the nnounce support team.

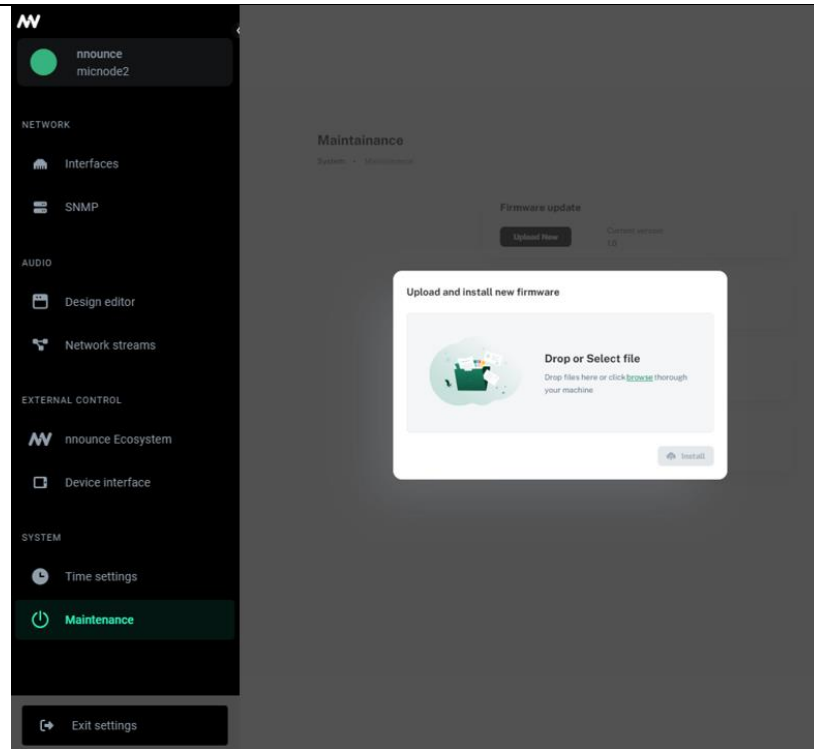
NOTE: The file is typically a .swu file.



A. Navigate in the left-hand menu to the **Maintenance** section.

Click on the button *Update New* in the *Firmware update* part.



B. Drag and drop or select the file provided by the nnode support team.



<p>C. Start to install the firmware update.</p>	
<p>D. Wait until the installation process is finished.</p>	
<p>E. After successful completion login screen is displayed.</p>	

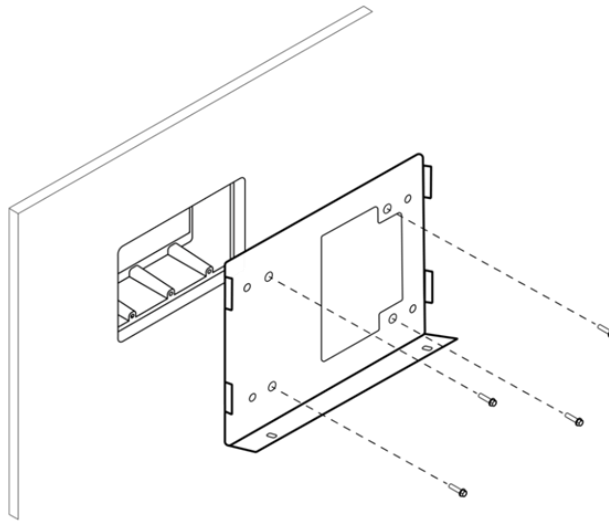
WALL-MOUNTING OF MICROPHONE STATION

For wall-mounting of the microphone station, prepare the respective place on the wall and the necessary cabling. The openings for screws on the mounting bracket are at a distance of 950 x 950 mm from each other.

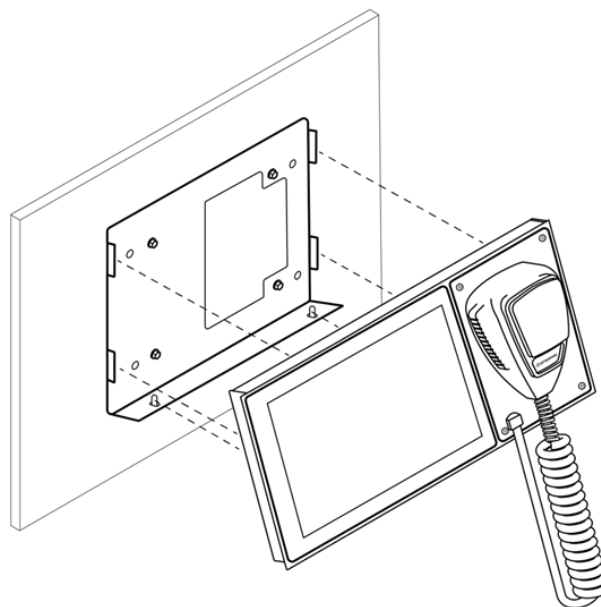
IMPORTANT: The cutout on the wall should not be larger than 700 x 700 mm.

NOTE: The screws for mounting the microphone station are not included in the packaging. Use screws that are appropriate for the surface that the microphone station will be mounted to.

1. Prepare the **cutout and cables** for the microphone station.
2. Use four screws to **attach the mounting bracket** to the wall and then put all the cables through the mounting bracket opening.



3. Attach the microphone station with two screws to the mounting bracket.



Microphone Replacement

Replace the microphone on your micnode2 microphone station.

A. Remove the **4 screws** from the **magnetic docking plate** from the device.





B. **Open the chassis** by moving the microphone cable with light side-to-side movements and remove the docking plate.



C. **Unplug the connected microphone** by pressing the beak on the top of the connector and pulling it out of the socket.



<p>D. Remove the cable from the docking plate by pulling the cable out with light force.</p>	
<p>E. Connect the NEW microphone by plugging the microphone connector into the Ethernet port.</p>	
<p>F. Remove the cable strain relief from the old microphone cable and place it on the cable of the new microphone.</p> <ul style="list-style-type: none">• Secure the cable strain relief around the cable.• Gently bend the cable so that it is not kinked and pull it through the hole at the bottom and out of the device.	
<p>G. Put the docking plate back in place.</p> <ul style="list-style-type: none">• Push the cable strain relief into the hole with the cable pointing downwards and secure it by pushing the palm of your hand from the top towards the device until the cable strain relief clicks into place.• Reattach the 4 screws on the device.	

The micnode2 device is ready to use with the new microphone.

TECHNICAL SPECIFICATIONS

Audio	AD Converter: 24 Bit @ 48 kHz 125 dB–A Dynamic Range – 0.00x % THD+N Crosstalk (1 kHz) – 60 dB DA Converter: 24 Bit @ 48 kHz 115 dB–A Dynamic Range – 0.00x % THD+N Max output level 1.44 Vrms 2.5 ms end-to-end latency AES67 network audio (with optional encryption)
Connectivity	1 x Front panel accessible Microphone input 1 x Rear Aux microphone station input 2 x Balanced audio output 2 x Protected GPIO 1 x USB–A 2 x LAN RJ45 1000 Mbps with PoE
DSP	Built-in web-based graphical DSP pipeline designer 60+ Component library Extended precision fixed point processing API library
User Interface	8" Capacitive touch screen, (1920 x 1200) WUXGA Web-based interface Cloud-connected
Security	Secure boot Encrypted firmware Tamper sensing Secure enclave chip AES256–GCM encryption for AES67
Storage	Onboard microSD card slot, included 32 GB card
Environmental	Operating temperature range 32 °F – 122 °F (0 °C – +50 °C) Storage temperature range 14 °F to 140 °F (–10 °C – +60 °C)
Power	IEEE 802.3af power over Ethernet (PoE), Power consumption: typical 8 W, max 15 W
Dimensions	290 mm (W) x 27 mm (D) x 145 mm (H) (without Desk Stand) 1 630 g without mounting kit
Accessories	Wall mount Handheld microphone Desk Stand (optional) Micnode AUX Station (optional)

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