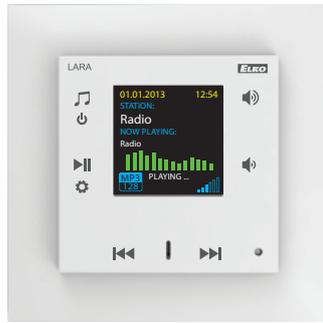


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## LARA Radio

02-70/2017 Rev.: 7

### Before you begin

Congratulations on purchasing your LARA Radio device (Internet radio in a switch).

The instruction manual provides information on installing and operating the device. The instruction manual is always a part of the supply. Only perform installation after becoming thoroughly familiar with this User Guide and device functions. Problem-free function of the device also depends on the way it was shipped, stored and handled. If you notice any signs of damage, deformation, malfunction or a missing part, do not install this product and return it to the point of sale. At the end of its service life, the product and its parts must be treated as electronic waste. Before starting the installation, make sure that all wires and connected parts are not under voltage. When assembling and performing maintenance, you must uphold safety regulations, standards, directives and special provisions for working with electrical equipment.

For successful installation, you will need: LARA Radio, a set of speakers, PoE power source, UTP cable with RJ45 connector, cable for speakers, PC with the application LARA Configurator. To protect yourself from electrical shock, connect only safety extra-low voltage (SELV) circuits. For example power supplies PoE (SELV) or LAN circuits (SELV circuits). Other power supplies (ELV) and WAN circuits (TNV circuits) should not be connected directly to product.

Warning: some LAN and WAN ports use the same connectors RJ-45 so be careful when connecting a product.

### Characteristics

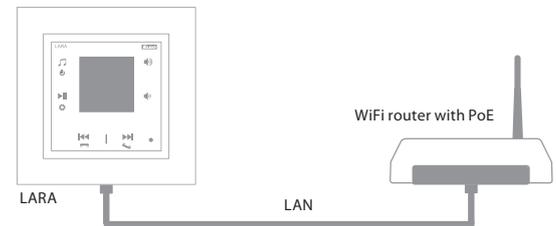
- A music and Internet radio player - all in the dimension of a switch and a luxurious LOGUS<sup>90</sup> design.
- LARA Radio - when connected to the Internet, it can play streaming radio stations and you can store up to 40 of them. But you can also select from thousands of radio stations from across the globe, which provide data for correct connection.
- LARA Radio can play content from an external music source, which can be a smart phone or e.g. an MP3 player. These devices are connected to a 3.5mm stereo jack audio input, located underneath the front panel.
- LARA Radio can also play audio files from central data storage, onto which Logitech Media Server is installed. This LARA function can therefore be used within the complex iNELS system or as an entirely independent home automation device. When used within iNELS, control is a part of the complex application iHC.
- Touch control is performed on the device front panel (six capacity buttons available).
- The basic device settings (network connection, language, audio input) are performed via the display and a simple menu controlled from capacity buttons on the device front cover. Further settings (selection of stations, connection with the server, updating firmware, etc.) are configured via computer and the software LARA Configurator.
- LARA Radio is equipped with an OLED colored display with the size of 1.5". The display also shows basic information about playing music, which also serves the orientation in the menu settings, etc.
- LARA Radio has an integrated amplifier with 2 x 10 W output, thus greatly facilitating device installation in places where such output suffices. LARA is used e.g. to provide premium sound to the kitchen, waiting rooms, offices, reception desks, entrance halls, operating rooms or wellness facilities.
- LARA is powered by PoE with maximum voltage level 27 V DC / 1000 mA. So connecting and communicating with just one cable (UTP) is a major advantage.
- For LARA, an entire series of accessories is ready for connection (PoE adapters, PoE switches), speakers (in a frame, walls or ceilings) and installation (cables, box, etc.).
- Complies with standards IEEE 802.3u (100BASE-Tx).
- Automatic cable crossing detection of Ethernet cable - MDIX.

### Options of design of the LARA player

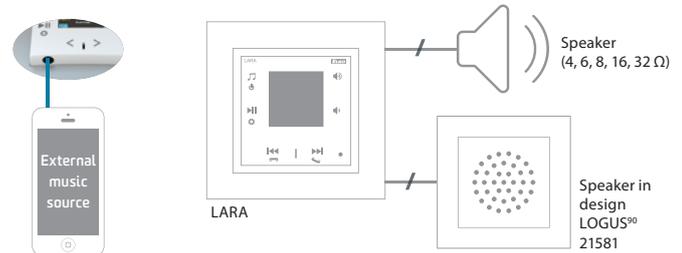
	Radio	Music	Videophone	Intercom	Audio zone
LARA Radio					
LARA Intercom					

### Easy installation in 3 steps

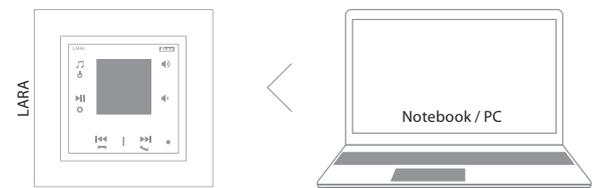
#### 1. Connect LARA and switch



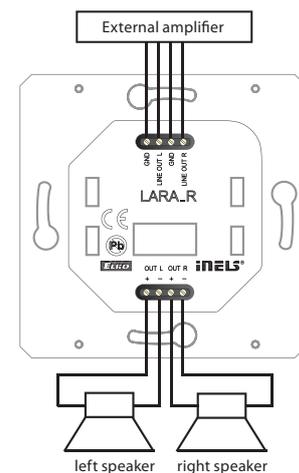
#### 2. Connect speakers to LARA



#### 3. Setting of LARA through LARA configurator



### Connection



## Technical parameters

### LARA Radio

#### Internet radio

Supported data transfer formats:	mp3, ogg, acc
----------------------------------	---------------

#### Control / settings

Front panel:	touchscreen buttons
Communication Ethernet:	via PC setting up and communicating SW LARA Configurator
Button RESET:	restart product / reset product to factory settings

#### Interface ethernet

Communications interface:	10 / 100 Mbps
Connector:	RJ45
Max. cable length UTP with power:	50m

#### Display

Type:	color OLED
Resolution:	128x128 pixels
Visible surface:	26 x 26 mm

#### Power supply parameters

Supply:	PoE 24 V DC (max. 27 V DC) / 1.25 A
Min. input:	1.4 W
Max. input:	26W (peak at maximum playback performance)

#### Amplifier parameters

Amplifier:	stereophonic class D with digital output control
Max. amplifier output	2 x10 W/8 Ω

#### Inputs / outputs

Audio input:	3.5 stereo jack
Audio output 1:	terminals LINE OUT (used for external amplifier)*
Audio output 2:	terminals OUT L/OUT R (speaker output from int. amplifier)

#### Connection

Terminal block:	0.5 - 1 mm <sup>2</sup> (audio outputs)
-----------------	---

#### Other data

Working temperature:	0 .. + 55 °C
Protection:	IP20
Overvoltage category:	II.
Pollution degree:	2
Installation:	in an installation box
Dimensions:	
Frame - plastic:	85 x 85 x 46 mm
- metal, glass, wood, granite:	94 x 94 x 46 mm
Weight - plastic:	87 g (plastic frame)

\*The cable from the LINE OUT terminals must be shielded, max. length should not exceed 5 m.

## Hardware installation

#### Requirements for installation environment:

- The product cannot be placed where it is exposed to moisture or excessive heat.
- Place the product at a spot where it can be connected to the Ethernet network. The Ethernet cable with PoE supply should have a short a distance as possible between the player and PoE source due to voltage drop occurring as the distance grows. Also use quality cables and connectors of a renowned brand for installation.
- Never install the player without its installation box, and it is prohibited to mount it directly into the wall, e.g. into drywall partitions, where the device chassis would be directly wrapped in insulation material.
- Distributing individual elements of the installation must be defined prior to actual installation, prior to interference (cutting) into walls or installation of boxes.

PoE (Power over Ethernet) is fed along a data network cable, without the need to provide power to the machine by another separate cable.

#### Description of installation:

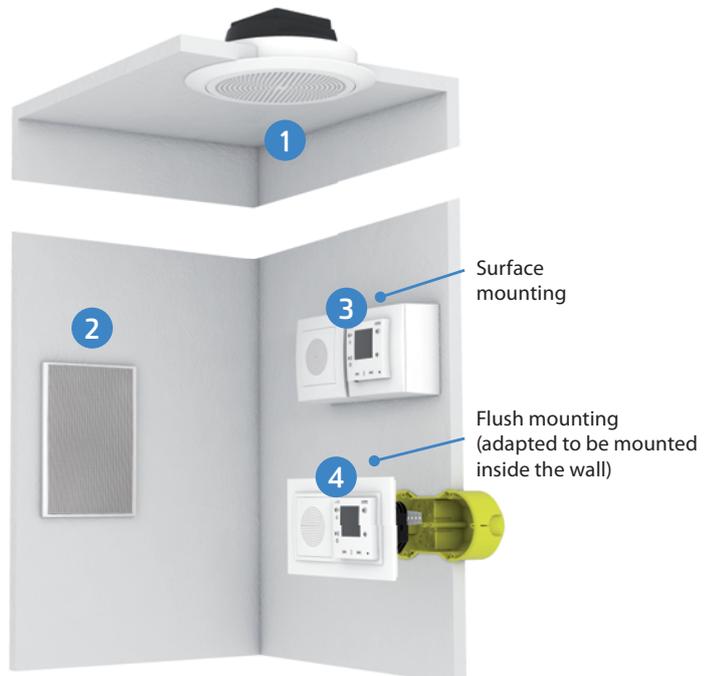
Install the bottom part of the LARA player into the box KU, we recommend a box that enables mounting devices with greater depth. Connect the speaker cables into the terminals OUT L +/- OUT R +/- . You can connect the input to an external amplifier into the terminals LINE OUT L, LINE OUT R, GND. Snap the Ethernet cable into the RJ45 connector. Secure the device using the installation box screws. Snap the upper part of the player into the design frame LOGUS<sup>90</sup>. Snap the upper part of the player with the frame to the lower part of the player. Connection of these two parts must be performed with care to avoid damaging the connectors. Connect the other end of the Ethernet cable to the PoE switch or via the PoE adapter to the Wi-Fi router, switch. After providing power, the display shows the system information, then after around five seconds the main display of the player.

#### Output of speakers, audio cables

speaker	output (W)
2x 4 Ω	2x 16W
2x 6 Ω	2x 13W
2 x 8 Ω	2 x 10W
2 x 16 Ω	2 x 5W
2 x 32 Ω	2 x 2.5W

When installing the speakers, use quality audio cables with minimum diameter 0.5 mm, with maximum length of 30 m. It is best to have the same cable length for the right and left channels.

- LARA - can be mounted inside your wall (installation box) or offers a surface mounting option.



- 1** Ceiling speaker
- 2** In-wall speaker
- 3** Box for surface mounting
- 4** Installation box

## Description of display in basic display



1. Date
2. Display of actual station name
3. Display of station name as it is listed on the Internet
4. Bit Rate\*
5. Time
6. Graphic equalizer
7. Volume
8. Performed action

\* Displaying the transmission quality (transmission speed tells what volume of information is being transferred per unit of time. The basic unit of the displayed transmission speed is a kilobit per second).

## LARA Dio Application Controls

LARA Radio (Intercom) can be controlled via applications:

### LARA Dio iOS:

<https://itunes.apple.com/us/app/lara-dio/id1173795972?l=cs&ls=1&mt=8>

### LARA Dio Android:

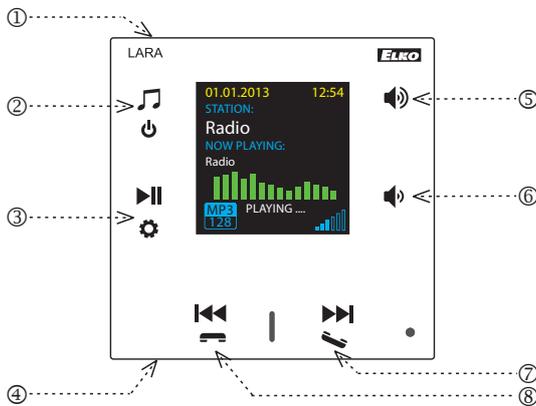
<https://play.google.com/store/apps/details?id=cz.elkoep.laradio>



## Control

- Long press
- Short press
- Repeated pressing

## Description and control of player



1. Hidden button **RESTART** - In the opening (in the upper part of the cover), for pressing use a thin object, i.e. a paper clip
2. Short press - switching between the Radio, AUX Input and Audio Zone  
Long press - switches off the device
3. Short press - **PLAY / PAUSE**  
Long press - input to settings
4. Connector for audio input of external music source for **AUX IN**
5. Short press  
- volume up  
- move up between rows
6. Short press  
- volume down  
- move down between rows
7. / 8. Short press  
- navigating in the list of assigned Radios  
- switching songs in the Audio Zone

## Playback

### Switching between the Radio, AUX Input and Audio Zone:



Switching between modes is performed by a short touch.

### Radio:



1. **PLAY / PAUSE**
2. Navigating in the list of assigned Radios

### Input AUX:



The input **AUX IN** is used to connect external audio devices such as a mobile phone, mp3 player and others. A 3.5 mm jack provides connection. In this mode, the player functions as an audio amplifier. When activating the input, the volume on the player is set (fixed) at 100%. You can control only on a connected external audio device.

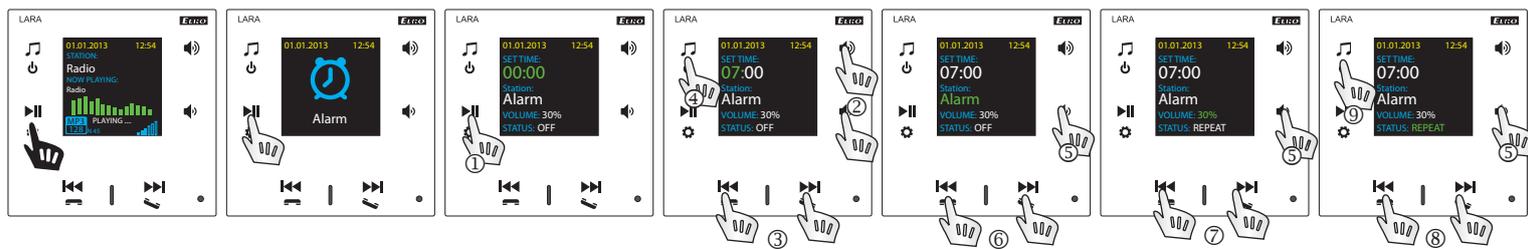
### Audio zone:



1. **PLAY / PAUSE**
2. Switching between songs

# Configuration, putting into operation

## 1. Alarm setting



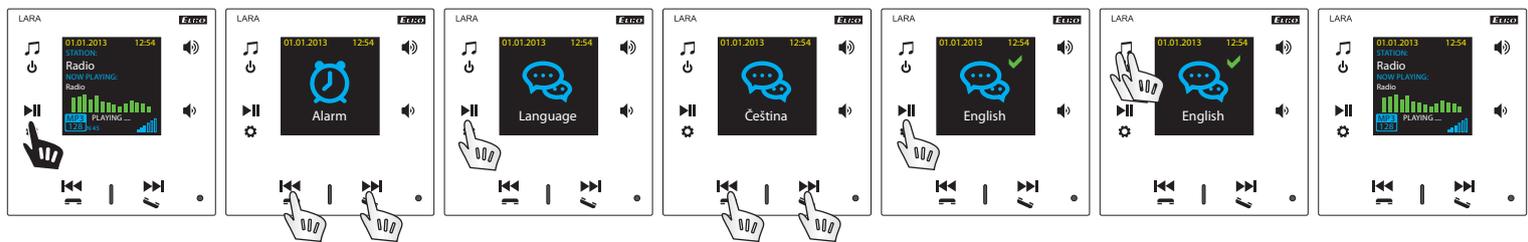
Display of alarm clock settings



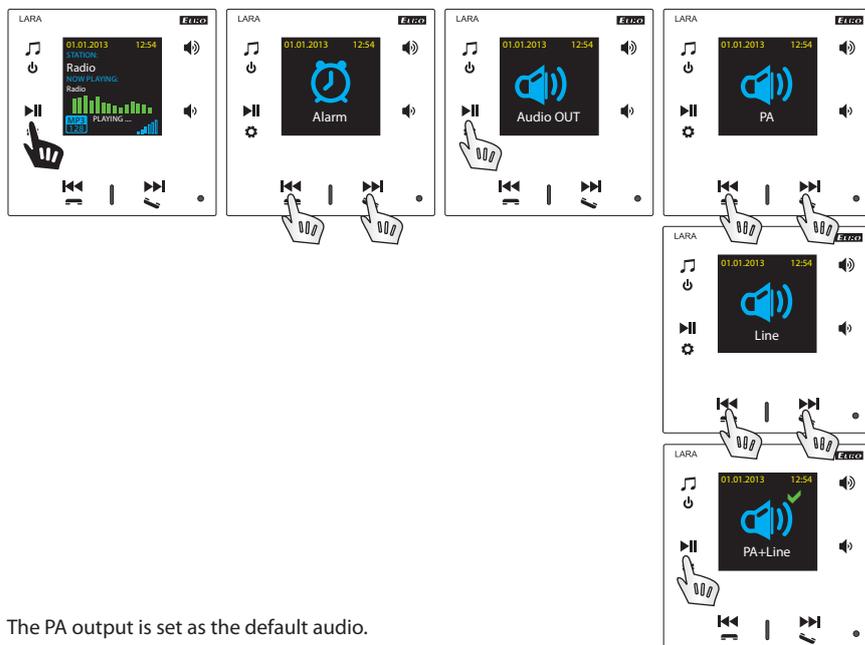
The alarm stops ringing by touching any button.

- ① Opening change.
- ② Setting the value hours / minutes.
- ③ Switching hours / minutes.
- ④ Saving set time.
- ⑤ Move down one row.
- ⑥ Selection alarm clock / radio station.
- ⑦ / ⑧ Increasing/decreasing volume.
- ⑨ On 1x / Repeat (every day) / Off.
- ⑩ One press - one level up, multiple presses - return to basic display

## 2. Selecting a language



## 3. Audio output settings



- Selection of the PA output to speakers connected to terminals OUT L, OUT R

- Selection Output link to terminals Line OUT L, Line OUT R designed for an external amplifier

- Selection PA+Link output to both terminals simultaneously



The PA output is set as the default audio.

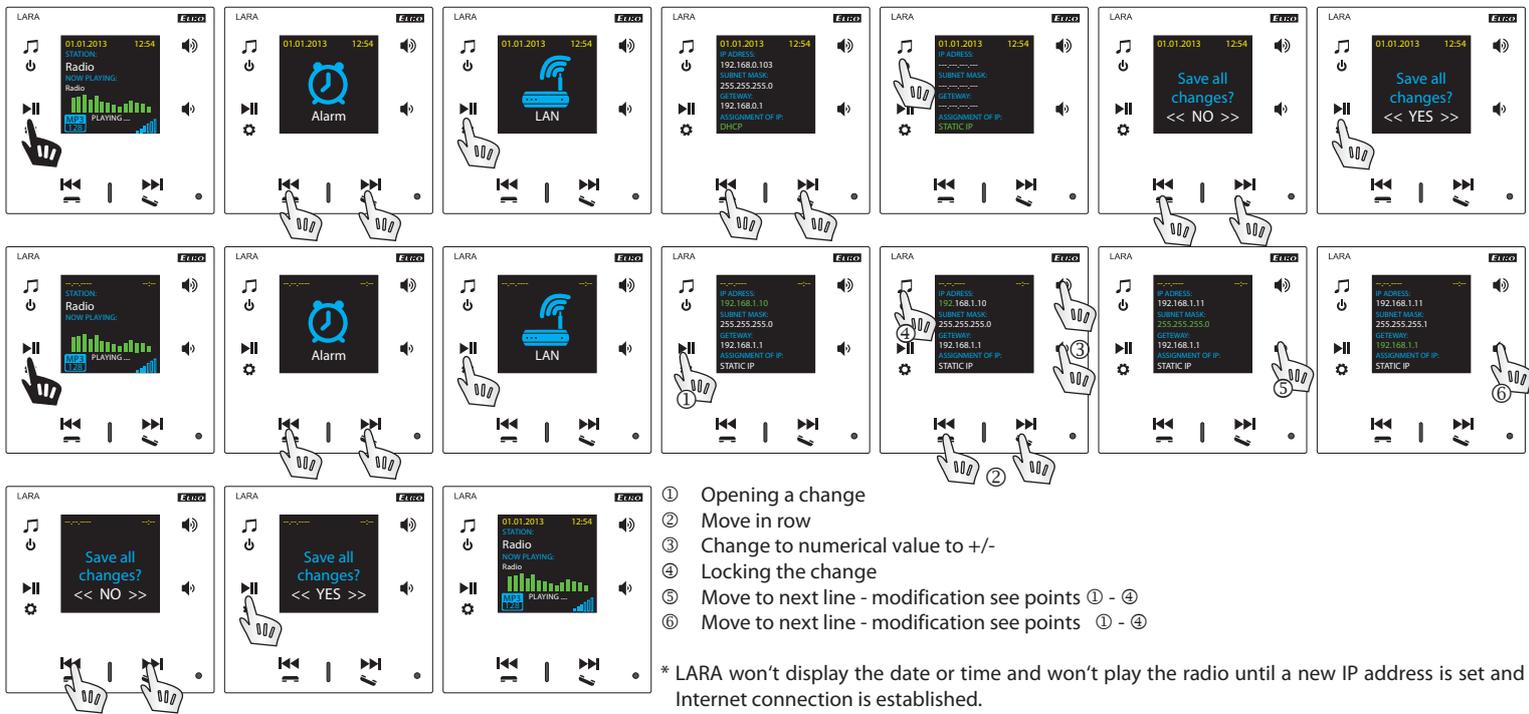
## 4. Setting up a network

LARA comes equipped with DHCP, meaning that it assigns the IP address itself automatically from the network range of your DHCP server.

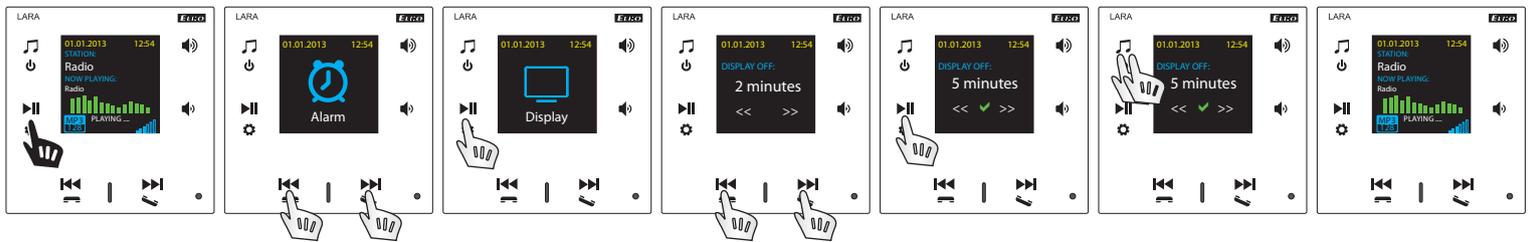
If you select „Static IP“, LARA Intercom automatically restarts and displays the start screen.\* Then in LAN you can manually set in the relevant positions:

- IP address - Enter a new address in decimal format separated by periods (default setting: 192.168.1.10).
- Subnet mask - Determines the size of the network: The value 255.255.255.0 is commonly used for the network mask.
- Gateway - Setting the default gate of the local network.

After setting, LARA Intercom automatically restarts and displays the start screen.

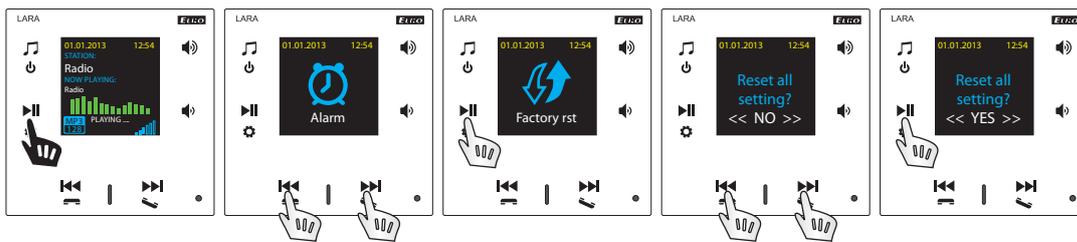


### 5. Settings of the active illumination time of the display



This concerns how long the display stays lit (10s, 20s, 30s, 1min, 2min, 5min). After this time expires the display goes out. It is activated by touching any button.

### 6. Device reset



Through the settings menu, select „Factory rst“ - the IP address from the DHCP range will be set and the factory settings will be restored.

## Configuring the device LARA Radio

Configuring the LARA network music player is performed using the software („SW“) LARA Configurator via Ethernet connection.

SW enables setting the basic network parameters, a change in login data, update of firmware („FW“) of the device, and editing the list of web radios.

Configuring the device LARA Radio using SW LARA Configurator:

The configuration SW can be freely downloaded from the website <http://www.elkoep.com/products/audiovideo/lara/radio/lara-radio-radio-mounted-in-the-wall-8295/>

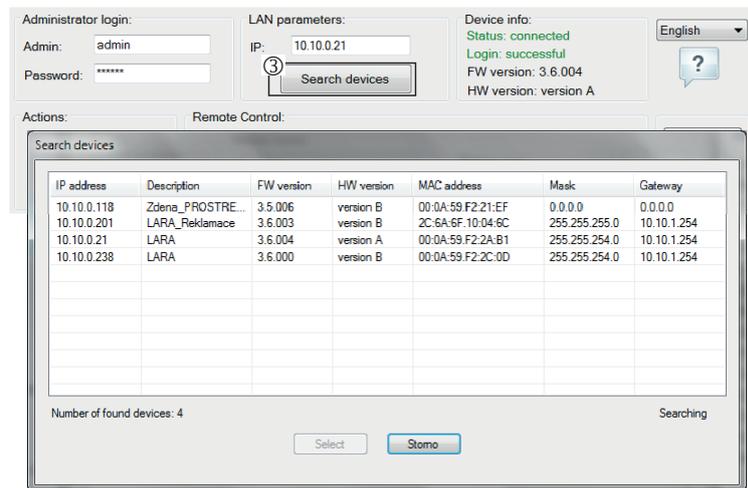
Using the configuration SW (LARA Configurator), you can:

- set the login data
- set the network connection parameters
- set the parameters for automatic synchronization of time
- edit the Internet radios list
- set the IMM audio zone parameters
- update FW of the LARA Radio device
- remotely control the LARA Radio device

The configuration SW communicates with the LARA Radio device by means of the Ethernet network. This SW can be run simply without installation in operating systems Microsoft Windows XP, Windows 7, Windows 8 and Windows 10. A condition to running the application is support of Microsoft .NET Framework 4 or its possible installation.

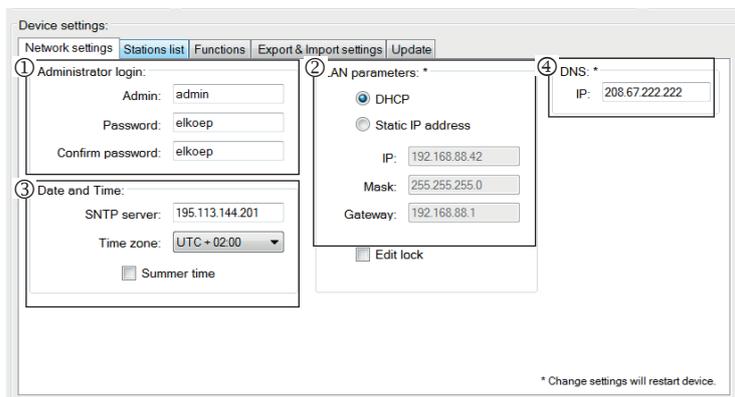
Start the LARA Configurator on the PC, which is signed in to the same network as LARA Radio. Then click on:

- ① Administrator login: In the login window dialog box, enter the set administrator login data. The factory settings of this data are the user: „admin“ and the password: „elkoep“. If the entered data is invalid, it will not possible to continue in reading the LARA Radio device settings.
- ② LAN parameters: The IP address of the connected LARA Radio device must be entered in the dialog window. IP address of the connected device can also be obtained by using the function „Search device“.
- ③ In a few seconds, the function „Search device“ searches for all connected LARA devices in the network. In the dialog window „Searching for device in the LAN network“, a list of all discovered devices is displayed. By marking the required device and consequent pressing of the button „Select“, the configurator is ready to read the settings of the device with the selected IP address.
- ④ About the device: The window „About the device“ indicates the connection status, login and version of SW and HW in the LARA Radio device. The connection status is not dependent on successful login. The „Connected!“ status occurs under the condition of a correct network connection, login „Successful!“ occurs after login data is correctly entered.
- ⑤ About the device: Information about the device and program including hypertext links to the product manual and catalog list.
- ⑥ Read settings: The button „Read settings“ serves to read all settings stored in the device LARA Radio. Reading occurs only in the event of successful connection and login.



- ⑦ Save settings: The button „Save settings“ is used to save the complete settings stored to the LARA Radio.
- ⑧ Remote control: By using the remote control in the LARA Configurator program, you can simply and quickly check the function of your configured device.

## Device settings / Network settings



- ① Administrator login: To change the login data, enter the new login name and password into the text fields. You must confirm the password.
- ② LAN parameters: To change network connection parameters, select the option „DHCP“ (automatic assignment of an IP address by the DHCP server) or „Static IP address“. If you want to use the device Intercom, you have to have a static IP address set.
  - To change the network connection parameters of the LARA device, enter in the text fields the new IP address, subnet mask and Epsnet port.
  - IP address - Enter a new device IP address in decimal format separated by periods (default setting: 192.168.1.10).
  - Subnet mask: Default value 255.255.255.0.
  - Firewall: Local network firewall settings.
- Port: use the factory preset port 61695. In case of problems with the firewall, we recommend choosing ports in a range of 49152 to 65535.
- ③ Date and time: The IP address of the time server is factory preset.
  - SNTP server: If needed, enter the IP address of another time server supporting the SNTP protocol. (addresses of SNTP servers can be copied from <http://www.timetools.co.uk/2013/07/25/ntp-server-uk/>)
  - Time zone: Select the time zone in the place of installation of the LARA Radio device for correct display of time.
  - You can switch from winter to summer time using the control element „Summer time“
- ④ Domain name of the server: Domain server IP address is preset at the factory (DNS - Domain name server - take care with the domain name translation to IP addresses, enter the IP address of your Internet provider if necessary).

## Device settings / List of stations

The tab „List of stations“ is used for complete management of the list of Internet radio stations stored in the LARA device. In LARA Radio, several stations are preset, which you can change or modify in any way.

- ① Edit stations\*: In the section Edit stations, you can use the buttons to add new or modify existing stations in the list.
- ② List of stations: It is possible to store up to 40 presets into the list for music network streams. LARA Radio in its current version supports streams in the formats SHOUTcast and Icecast with audio formats MP3, AAC and OGG, which are used in most cases of Internet broadcasting.
- ③ Control elements: After successful reading of stations along with overall device settings, you can browse the list of streams and change their order. For sorting and removing items from the list, use the relevant control elements on the right side of the list.

\* To add a new station, you must know its source address, which is usually given in a variety of forms:

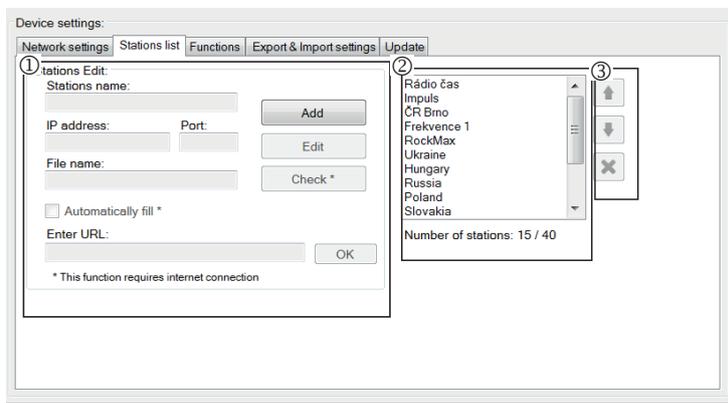
- http://www.servername.com:portnumber/filename
- http://135.111.258.333:8000/filename
- http://www.servername.com:8000/filename
- http://www.servername.com:8000
- http://135.111.258.333:8000
- http://www.servername.com/filename

Adding new radio stations: after pressing the „add“ button, you begin entering the stream parameters into the relevant fields.

### Manual completion:

- Name of station: name of preselection displayed on the OLED display.
- IP address: Server address where the stream is being broadcast. The server address must be entered in decimal format separated by periods. If it is an address with a domain name (www.servername.com), use the automatic completion option, see below.
- Port number: This is entered as a number in decimal format. (example 1: www.servername.com:8000/hudba.mp3 - port number = 8000) If this port number is not listed in the address, enter port number 80 (example 2: www.servername.com/hudba.mp3 - port no. = 80).
- File name: Not always used and not a required parameter for storing the station. (example 3: www.servername.com:8000/hudba.mp3 - file name = hudba.mp3) (example 4: www.servername.com:8000 - do not enter file name).
- After entering all necessary data, store the station in the list by pressing „Save“.

**Note:** If the file name has the extension \*.m3u, it is not the music stream address, but a playlist address containing the address (or multiple addresses) in the music stream. In this case, use the option of automatic completion.



### Automatic completion:

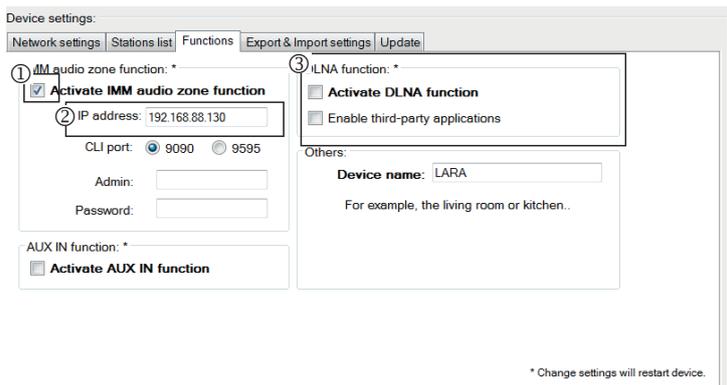
For most addresses, it is possible to use the function of automatic completion by the following steps:

- Enter any name of a station.
- Click the option „Automatic completion“ and after entering the address, confirm by pressing „OK“.
- An information message will inform you of the result of the automatic processing of the link.
- Enter the station in the list by pressing „Save“.

**Note:** The automatic completion function requires an active Internet connection.

**Important note:** Store the prepared list of stations into the device along with settings by pressing „Save“. Until you do so, the list is elaborated and stored only in the SW memory!

## Device settings / Functions



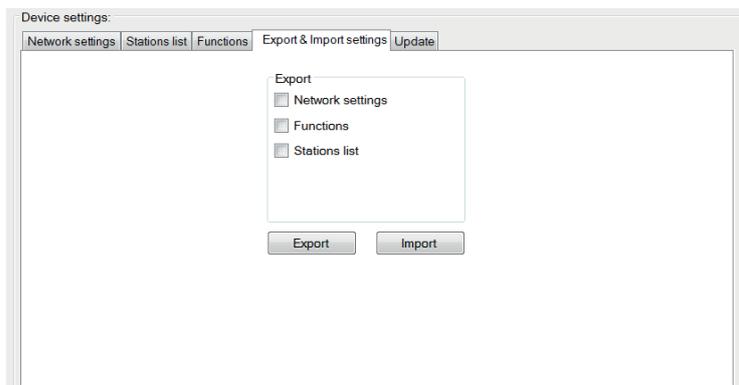
Function iMM Audio Zones: used for already installed iNELS system, where the LARA payer is a fully functional Audio Zone.

**Note:** the iMM Server is designed to connect nearly all technologies in the home with the intelligent electrical installation iNELS BUS System.

- ① Function of the iMM Audio Zone The iMM Audio Zone function can be activated and deactivated by control unit.
- ② IP address: Enter the IP address of the iMM server in decimal format separated by periods.
- ③ Name of equipment: This is displayed in the iMM environment and when searching for the device in the network.

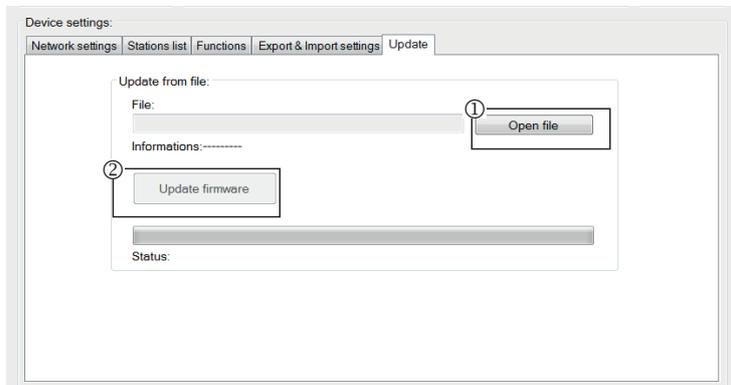
Restart the device after each change in settings of the function.

## Device settings / Export & Import settings



Export & Import settings: With these functions, you can easily back up and restore selected items - network settings, features, station list, intercom and equalizer. Created backups are in the\* .lcf format - backups of station lists from older firmware are not compatible with this system.

## Device settings / Updating FW



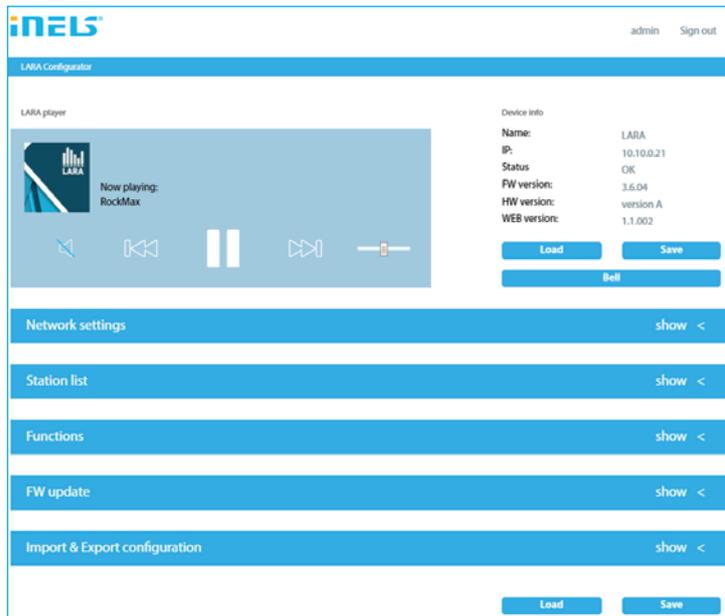
To update the FW in the LARA Radio device, it is first necessary to download the update file with the extension „\*.lfw“ from the address <http://www.elkoep.com/products/audiomedia/lara/radio/lara-radio-radio-mounted-in-the-wall-8295/>

① Select file: Pressing „Select file“ brings up a dialog window for searching and selecting the update file. After opening the selected file, its contents are checked, and the user is then informed of the result. If the correct file has been selected, the FW version number is displayed.

② Updating FW: Pressing the button starts the update, the progress of which is illustrated graphically. Reading a damaged or invalid file prevents the following updating steps, and it is necessary to repeat the process with the correct update file.

Web interface access is available with the LARA IP address and port 61695 (ex: 10.10.10.10:61695)

**Note:** To set LARA device after FW update it is necessary to use the same version of LARA Configurator as the FW version.



## Accessories

### Power / network elements



Power supply PoE  
(PoE injector, for powering by UTP cable, connector 2x RJ45)  
Order Code: 5225



Power supply PoE + WiFi  
(complete for wireless connection of LARA into hollow walls)  
Order Code: 5227



Power supply of PoE + WiFi into an installation box  
(complete for wireless connection of LARA into installation boxes)  
Order Code: 5224



PoE switch with 5 ports  
(to power 5x LARA)  
Order Code: 6605

\* The shape of wireless transmitter Ubiquiti Gateway connector may not fit to external power supply. In this case it is needed to interconnect both parts using e.g. tightening strip.

### Speakers



Speaker 2" 32 Ω  
- with mounting into an installation box  
Order Code: 21581

Cover colors:	Order Code:
White	90710 TBR
Ivory	90710 TMF
Ice	90710 TGE
Pearl	90710 TPE
Grey	90710 TIS
Alluminium	90710 TAL



Speaker 5" 32 Ω  
Speaker 5" 16 Ω  
Speaker 5" 8 Ω  
- with ceiling mounted

White	75023 CBR
Ivory	75023 CMF
White	75022 CBR
Ivory	75022 CMF
White	75021 CBR
Ivory	75021 CMF



2 way speaker 32 Ω  
2 way speaker 16 Ω  
2 way speaker 8 Ω  
- mounting on a wall or ceiling  
- dimension (mm): 270 x 183 x 37

White	75106 CBR
White	75105 CBR
White	75104 CBR



Square 2-way speaker 32 Ω  
Square 2-way speaker 16 Ω  
Square 2-way speaker 8 Ω

White	75083 CBR
Ivory	75083 CMF
White	75082 CBR
Ivory	75082 CMF
White	75081 CBR
Ivory	75081 CMF

- with ceiling mounting  
- dimension (mm): 204 x 204 x 92

## Troubleshooting

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- The product is not communicating, the display is not illuminated  
Solution: Check the power supply. Check to see if the product is connected to the power supply and if the RJ45 connector is connected to the product. Check if the power source PoE is connected to the network.
- The product is illuminated but the radio does not play.  
Solution: Check the IP address of the radio server, or its new settings.  
Check the Ethernet network connection. Disconnect and reconnect the RJ45 Ethernet connector. After repeated connection, the product displays system information; if within five seconds the player display does not appear, there must be some network connection issues, check the network settings.
- Interrupted playing, frequent reading of the radio.  
Probably insufficient Internet connection speed.
- Restart the product.  
Device restart is used to restart without deleting the set data. Do this by a short press ( $\pm 1$  sec) of the RESET button located on the device cover in the state where the product is connected to the power supply, or by disconnecting and reconnecting the LAN cable or PoE adapter.

## Maintaining the device

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The device front panel and frame can be cleaned using a dry or slightly moistened rag. Avoid use of other cleaning agents.

The company ELKO EP, as the manufacturer, is entitled to make technical modifications to the product, in the technical specification and product manual, without prior notification. ELKO EP bears no liability for possible incompleteness and mistakes in this document.