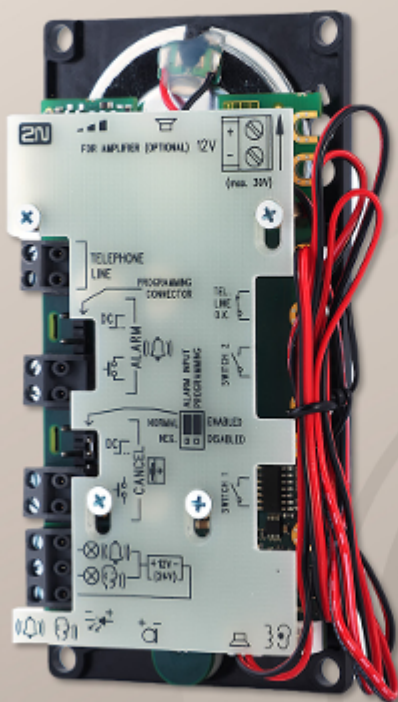




2N[®] Lift1

Communicator for lifts



User manual

Version 1.0

www.2n.cz

The 2N TELEKOMUNIKACE a.s. is a Czech manufacturer and supplier of telecommunications equipment.



The product family developed by 2N TELEKOMUNIKACE a.s. includes GSM gateways, private branch exchanges (PBX), and door and lift communicators. 2N TELEKOMUNIKACE a.s. has been ranked among the Czech top companies for years and represented a symbol of stability and prosperity on the telecommunications market for almost two decades. At present, we export our products into over 120 countries worldwide and have exclusive distributors on all continents.



2N[®] is a registered trademark of 2N TELEKOMUNIKACE a.s. Any product and/or other names mentioned herein are registered trademarks and/or trademarks or brands protected by law.



2N TELEKOMUNIKACE a.s. administers the FAQ database to help you quickly find information and to answer your questions about 2N products and services. On www.faq.2n.cz you can find information regarding products adjustment and instructions for optimum use and procedures „What to do if...“.



2N TELEKOMUNIKACE a.s. hereby declares that the 2N[®] Lift1 product complies with all basic requirements and other relevant provisions of the 1999/5/EC directive. For the full wording of the Declaration of Conformity see the CD-ROM (if enclosed) or our website at www.2n.cz.



The 2N TELEKOMUNIKACE a.s. is the holder of the ISO 9001:2009 certificate. All development, production and distribution processes of the company are managed by this standard and guarantee a high quality, technical level and professional aspect of all our products.

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1. Product Introduction

In this section, we introduce the **2N[®] Lift1** product, outline its application options and highlight the advantages following from its use.

Here is what you can find in this section:

- [1.1 Product Description](#)
- [1.2 Components and Associated Products](#)
- [1.3 Upgrade](#)
- [1.4 Terms and Symbols Used](#)

1.1 Product Description

Basic Features

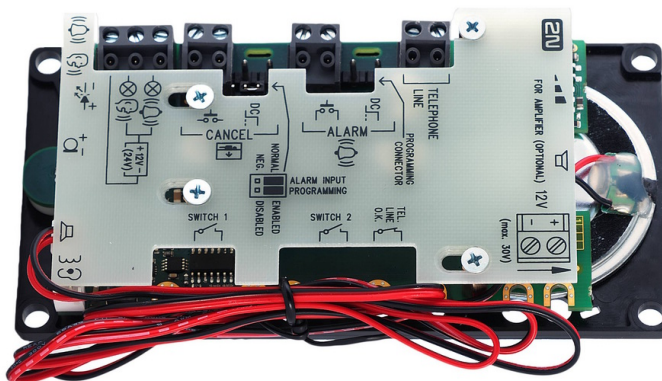
- **2N® Lift1** is primarily designed for lift installation – especially where there is one lift and no communication is needed between the lift cabin, machine room, shaft bottom and shaft roof (**2N® Lift8** is designed for more complex installations).
- **2N® Lift1** is a Speakerphone on principle. This means that a microphone and an in-built (behind the lift button panel) speaker are used for bidirectional communication.
- **2N® Lift1** can be connected to a PSTN line directly. **2N® Lift1** is also powered from the PSTN line - requires **no battery** and thus **no maintenance**. **2N® Lift1** can also be connected to a PBX line or a GSM gateway (refer to Associated Products).
- **2N® Lift1** can be used for making calls to pre-programmed numbers and cannot be misused for "calling at somebody else's account".
- **2N® Lift1** can be equipped with various extending modules as necessary during and after purchase.

Advantages of Use

- Basic announcement set playing
- 30s lift identification announcement recording option
- Check call once in three days
- Remotely adjustable acoustic parameters
- 2 LED indicators complying with the applicable lift regulations
- Function programming and check via phone
- On-hook and busy line detection
- Automatic redialling of multiple numbers
- Protection against unintentional/useless startup (CANCEL)
- Call control from control centre
- No additional power supply requirement
- Easy installation into any lift button panel
- Certified for PSTN connection
- Amplifier module
- Lift blocking module
- Switch module (DTMF-controlled switches 1 and 2)
- Powerful indication options – illuminated pictograms (including bulbs)

1.2 Components and Associated Products

Basic Unit – Universal Design

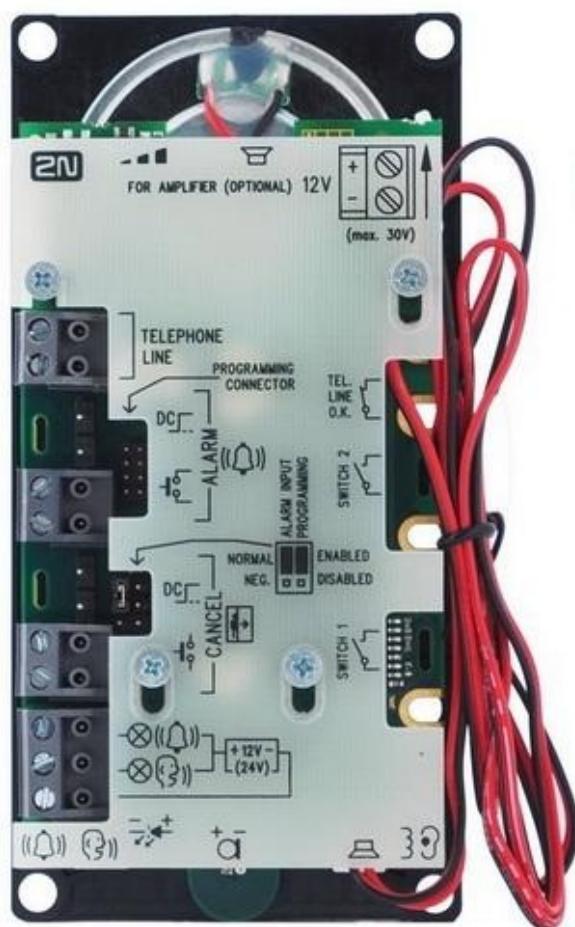


These units are installed behind the lift panel, which is prepared for installation in advance.

Part No., Name	Description
919640 2N® Lift1 – Cabin audio unit	<ul style="list-style-type: none"> ■ basic module (fully extendable) ■ automatic dialling of up to 6 numbers ■ factory announcements are played ■ own lift identification announcement recording option
919640X 2N® Lift1 – Cabin audio unit, cable version	<ul style="list-style-type: none"> ■ 919640 + LED, microphone and speaker connected with cables

Extending Modules for 919640 Basic Units

Part No., Name	Description
913648E 2N® Lift1 – Switch module	<ul style="list-style-type: none"> ▪ A universal switch, remotely DTMF-controlled during connection. The installation includes two switches or one switch + one blocking module.
913649E 2N® Lift1 – Blocking module	<ul style="list-style-type: none"> ▪ A special switch that helps block a lift in the event of telephone line error.
913650E 2N® Lift1 – Amplifier module	<ul style="list-style-type: none"> ▪ An amplifier module with gain control. Designed for noisy environments, car lifts, etc.
913621E 2N® Lift1 – Induction loop	<ul style="list-style-type: none"> ▪ An induction loop for persons with hearing aids including a self-adhesive holder and 1m cable.



**Amplifier
913650E**



**Blocking module
913649E**



**Switch module
913648E**



**Induction
loop
913621E**

Programming Tool

Part No., Name	Description
919680E 2N® Lift1 Programming Tool	<ul style="list-style-type: none"> Used for interconnection of 2N® Lift1 and 2N® Lift1 Service Tool via USB.

Extending Modules – External



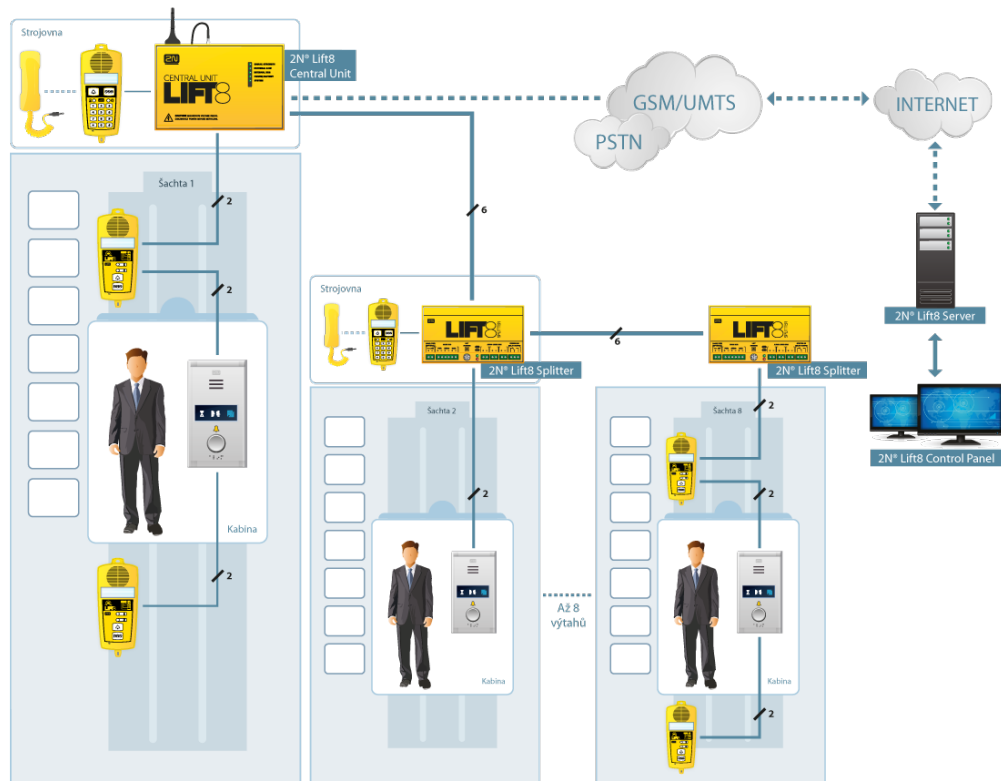
Part No., Name	Description
913646 External lift blocking module	<ul style="list-style-type: none"> ▪ Blocks the lift function during telephone line failures.

Use the blocking module with **2N® Lift1** wherever you need to save the trailing cable wires. Install the module directly into the machine room through which the telephone line passes.

Associated 2N® Products

918xxx 2N® Lift8 System

- Up to 8 lift connectivity
- Cabin, shaft and machine room audio units
- In-built backup rechargeable battery
- Easy control and configuration via voice menu
- Check call function
- Lift blocking option during connection error
- Internal communication - Triphony
- Configuration via phone or PC (USB/Internet)
- USB interface
- User message recording option
- Local control option (InterCom)
- Fireman function



5013331E – 2N[®] EasyGate PRO GSM Gateway incl. 2N[®] Lift1 backup batteries

- Fixed telephone line substitution
- Easy installation, no configuration



501399 - 2N[®] EnergyBank Backup Power Supply for 2N[®] EasyGate (501303, 501313)

- Backup power supply for power outage
- Easy installation



Cooperating 2N[®] Applications

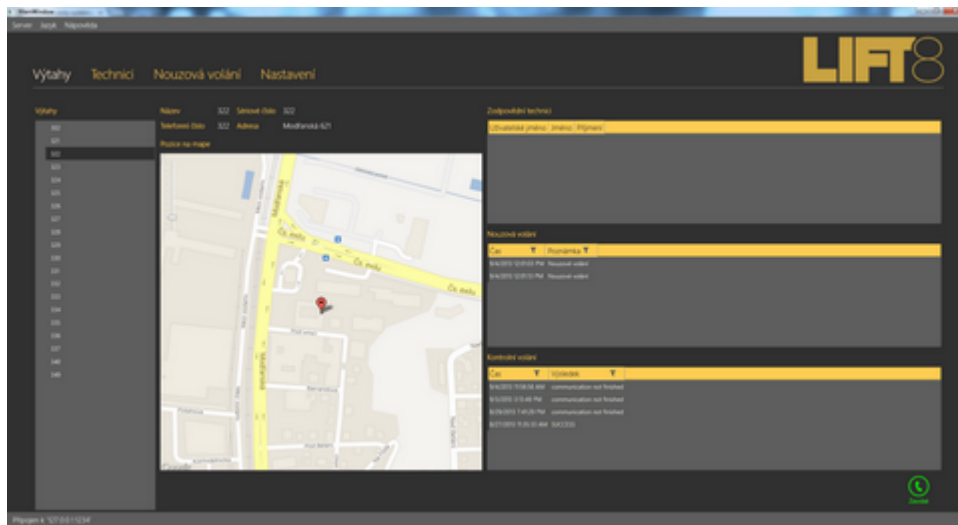
918700E 2N[®] Lift8 Control Panel



Obrázek: 2N[®] Lift8 Control Panel

The **2N[®] Control Panel** application is designed for management of users, lifts and rights.

918700E 2N[®] Lift8 Communicator



Obrázek: 2N[®] Lift8 Communicator

The **2N[®] Lift8 Communicator** application is designed for receiving alarm calls by Dispatcher.

918700E 2N[®] Lift8 Server

```

c:\Program Files (x86)\2N TELEKOMUNIKACE\2N Lift8>cd Server
c:\Program Files (x86)\2N TELEKOMUNIKACE\2N Lift8\Server>18-config.exe -1
2N Lift8 Server Configuration Tool ver. 1.6.0.20.6
2N Lift8 Server status:
Running
Listing parameters:
2N Lift8 Server version: 1.6.0.20.6
Application data directory: 'C:\ProgramData\2N Telekomunikace\2N Lift8\Server'
2N Lift8 Server identification number: 3d837e4f
Database version: 29
Listen port: 7008
Log level: 3
Maximal number of TCP connections for users: 500
Maximal number of TCP connections for lifts: 2
1 license for 2436 hours (2076 used), 1000 users and 5000 lifts

License status: OK

c:\Program Files (x86)\2N TELEKOMUNIKACE\2N Lift8\Server>

```

Obrázek: 2N[®] Lift8 Server

The **2N[®] Lift8 Server** application processes check calls and mediates communication between the Central Units and PC applications.

1.3 Upgrade

The manufacturer reserves the right to modify the product in order to improve its qualities.

Manual version	Description of changes
1.0	<ul style="list-style-type: none">▪ First product/manual version▪ Functional replacement of the 91364X series (2N® Single Talk)



Caution

- The manufacturer keeps upgrading the software according to the customers' needs. Refer to www.2n.cz for the latest PRODUCT software version and manual.
- Refer to the Service Tool section for the **2N® Lift1** firmware upgrade details.

1.4 Terms and Symbols Used

Symbols

The following symbols and pictograms are used in the manual:



Safety

- **Always abide** by this information to prevent persons from injury.



Warning

- **Always abide** by this information to prevent damage to the device.



Caution

- **Important information** for system functionality.



Tip

- **Useful information** for quick and efficient functionality.



Note

- Routines or advice for efficient use of the device.

Future Functions, New Features

The grey-marked text in this document designates the functions and features that are under preparation or development at present.

2. Description and Installation

In this section, we describe the **2N® Lift1** product and its installation. Here is what you can find in this section:

- [2.1 Product Description](#)
- [2.2 Before You Start](#)
- [2.3 Mounting – Universal Design](#)
- [2.4 Installation – Universal Design](#)
- [2.5 Connection Methods](#)

2.1 Product Description

2N® Lift1 je a Speakerphone on principle. It is equipped with a microphone, speaker, phone line terminals, ALARM button, illuminated pictograms (according to standard requirements) and CANCEL input (optional cabin door opening signal).

2N® Lift1 is supplied in the **Universal design**. It is installed behind the pre-prepared lift panel (holes cut according to the drawing, see Mounting).

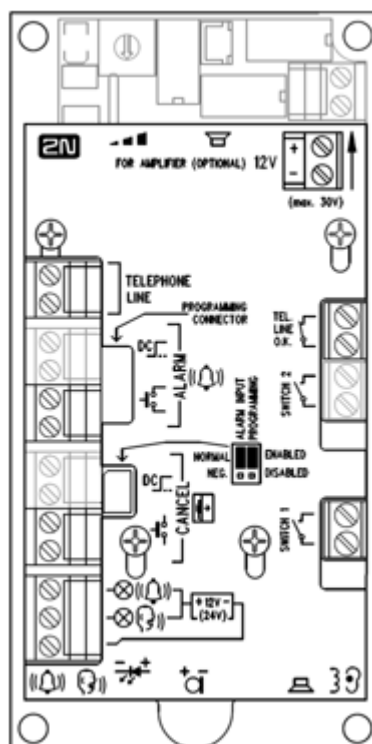
Operation

Press the ALARM button to activate the device. The "Wait" pictogram starts shining immediately. The "Connection established" pictogram starts shining when communication has been established.

Universal Design

The electronics board is located between the mounting panel and the cover printed with instructions (see the figure). The total dimensions are 65×130×24 mm. The speaker and microphone are mounted on the panel. There are basic (slide-on) terminals to the left and extending modules (lift blocking, switches) to the right.

The small connectors in the lower part are intended for induction loops (for hearing impaired persons) and LED indicators. Illuminated pictograms/icons (even with bulbs) can be easily connected to the device. The pictograms and the ALARM button are not included in the delivery as they are lift design elements.



2.2 Before You Start

Product Completeness Check – Universal Design

Check whether the product package includes the following before installation:

- motherboard
- four terminals (line, ALARM, CANCEL, pictograms) slid to the left
- speaker and microphone (plus an additional cable microphone if required by the client)
- Brief manual (printed) and Warranty card
- download the **2N® Lift1 Service Tool** from www.2n.cz

2N® Lift1 Installation Conditions

- **2N® Lift1** is not intended for outdoor applications.
- As the product is connected to a telephone line and may thus produce life-endangering voltage, follow the safety precautions - refer to Electric Installation.
- Never connect **2N® Lift1** to a line in parallel with another terminal device.
- Make sure that the lift wall is perfectly flat.

Tip

- Use a portable phone to make sure that the telephone line works.
- Make sure that you know the telephone line number and make a test call.
- Check the other important conditions mentioned in **2N® Lift1** Connection Methods before connecting a PBX line.

Universal Design

- Make sure that the lift panel is ready for **2N® Lift1** mounting.

2.3 Mounting – Universal Design

Safety Precautions

⚠ Safety

- The telephone line, microphone, speaker, LED indicators, ALARM button, CANCEL input, cables and electronics are connected with the telephone line. Therefore, make sure that the product installation prevents any contact between the user and these parts to avoid electrical accident. Keep the isolation distance of 1.5 mm at least or insulation breakdown voltage of 1500 V at least!

⚠ Caution

- Make sure that the position, appearance and marking of the communicator controls (ALARM button, e.g.) are in accordance with the applicable lift standards.

2N[®] Lift1 Position

2N[®] Lift1 can be mounted in any position as required. The optimum position for 2N[®] Lift1 is approximately on the level of an adult's mouth. Install 2N[®] Lift1 on a place where any contact of the operating personnel with the device is eliminated (refer to Safety Precautions).

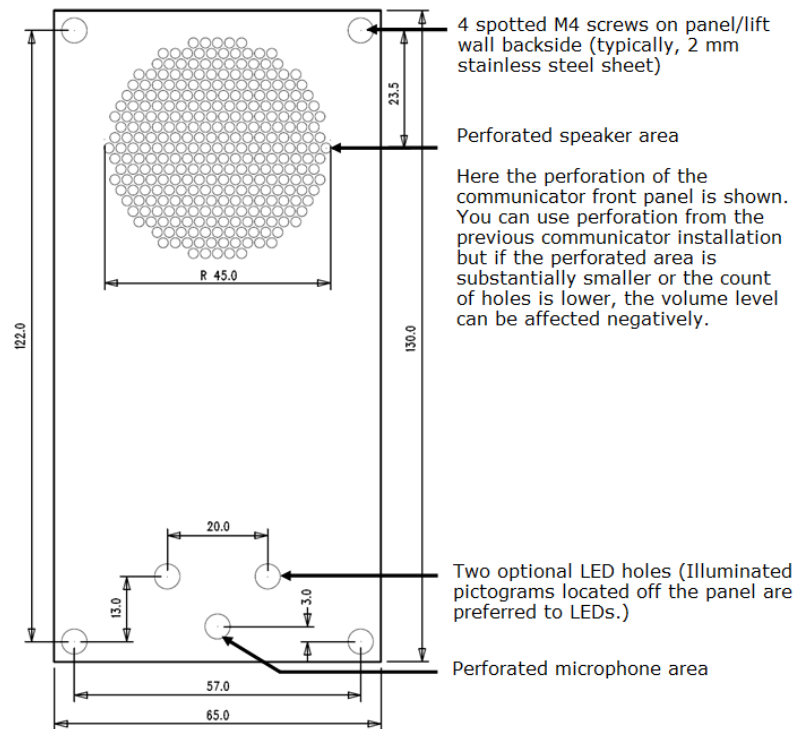
⚠ Caution

- Installing electronics without the mounting panel is not recommended as the panel is used as electric insulation and the manufacturer cannot guarantee safety if the panel is not used.

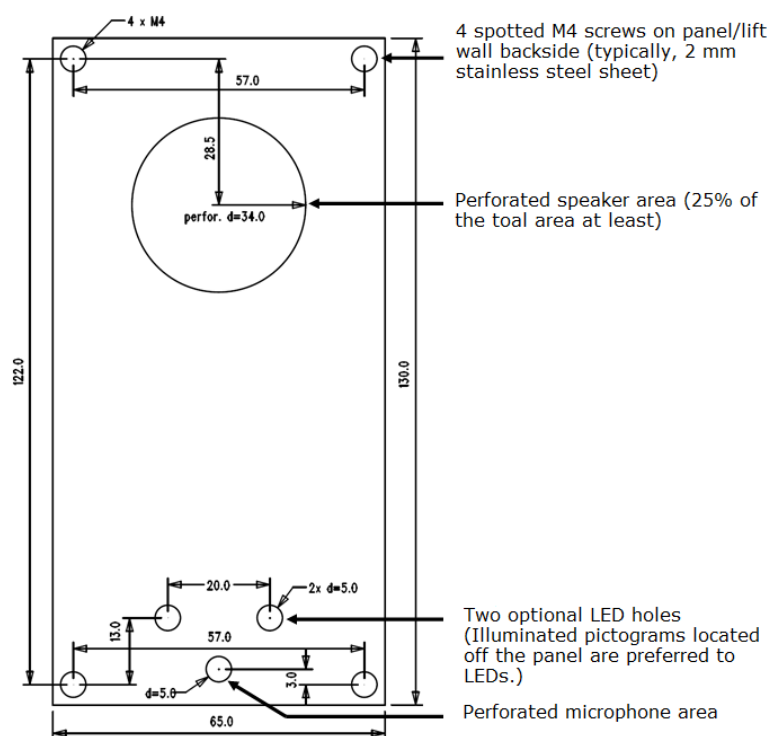
2N[®] Lift1 Electronics Panel Mounting

What you need to mount the electronics panel onto the lift button panel (from inside): four 57×122 mm spot-welded M4 screws and sufficiently perforated speaker area (may be larger than as shown in the figure but **may never exceed the panel size** to avoid acoustic fault), microphone hole and two LED holes if necessary.

Mounting Drawing for 50 mm Speaker Installation



Mounting Drawing for 40 mm Speaker Installation



If you use other than the prescribed screws, make sure that the isolation distance between the electronics and substandard fitting elements is 2 mm at least. Make sure that the panel is fitted perfectly to avoid resonance during operation. There may be no gap between the lift button panel and **2N[®] Lift1** or the gap must be sealed properly to eliminate acoustic fault of the speaker and acoustic feedback between the speaker and microphone (see below).

⚠ Caution

- Make sure that microphone hole is sealed properly to record only sounds from the cabin instead of the noise from the shaft or space behind the panel.

Off-Panel Microphone Mounting

By default, the microphone is mounted directly on the printed circuit (see the drawing for its position). If required, the microphone can be supplied with a cable mounted on a 25×25 mm holder with self-adhesive foil. This allows you to mount the microphone behind any lift button panel hole of the minimum diameter of 3 mm or a group of holes of the same total area. The **2N[®] Lift1** microphone is on the board, but an external microphone can be connected via a connector. Switching to an external microphone is automatic (its connection is detected).

The minimum centre-to-centre distance between the speaker and microphone is 90 mm. A shorter distance may result in acoustic feedback. A longer distance does not matter.

Warning

- Make sure that the microphone hole is sealed properly against the noise from the gap between the lift cabin wall and mounting panel. The microphone should record sounds from the cabin instead of noise from the shaft or space behind the panel!

Off-Panel Speaker Mounting

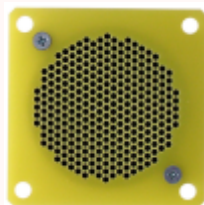
By default, the speaker is mounted on a panel and equipped with a 1m cable for additional amplifier installation. You can also remove the speaker from its panel bed and place it separately. **In that case, respect the electric safety precautions, see below!**

Caution

- Installing the speaker separately, make sure that the grid cannot surpass the speaker dimensions in any case to eliminate the acoustic fault between the speaker front and back sides!

Safety

- If the speaker is installed separately, ensure the minimum electric isolation of 1500 V between the panel and speaker.
- Also, make sure that the isolation distance between the panel and speaker is 1.5 mm at least.
- Do not remove the rubber seal of the 40 mm speaker as it has an insulating function too!
- Mount the 50 mm speaker on an insulating (non-metallic) surface only or require an external panel (not included in the delivery), see the figure below.

**Caution**

- We do not recommend you to install the microphone and speaker on completely different cabin sites (ceiling and wall, e.g.) to allow the users to find the microphone easily next to the speaker grid/perforation.

Indicator Mounting

There are three types of **2N® Lift1** state indicators:

- Illuminated pictograms are part of the cabin control panel.
- LEDs on the **2N® Lift1** electronics plus optional light guides conducting light to

two panel holes.

3. Two optional highly luminous LEDs can be connected to **2N® Lift1** via a cable.

⚠ Safety

- If you connect two optional LEDs with a cable, make sure that the electric isolation between the panel and speaker is 1500 V at least.
- Also, make sure that the isolation distance between the panel and speaker is 1.5 mm at least.
- It is prohibited to use standard metal LED holders, see the figure!



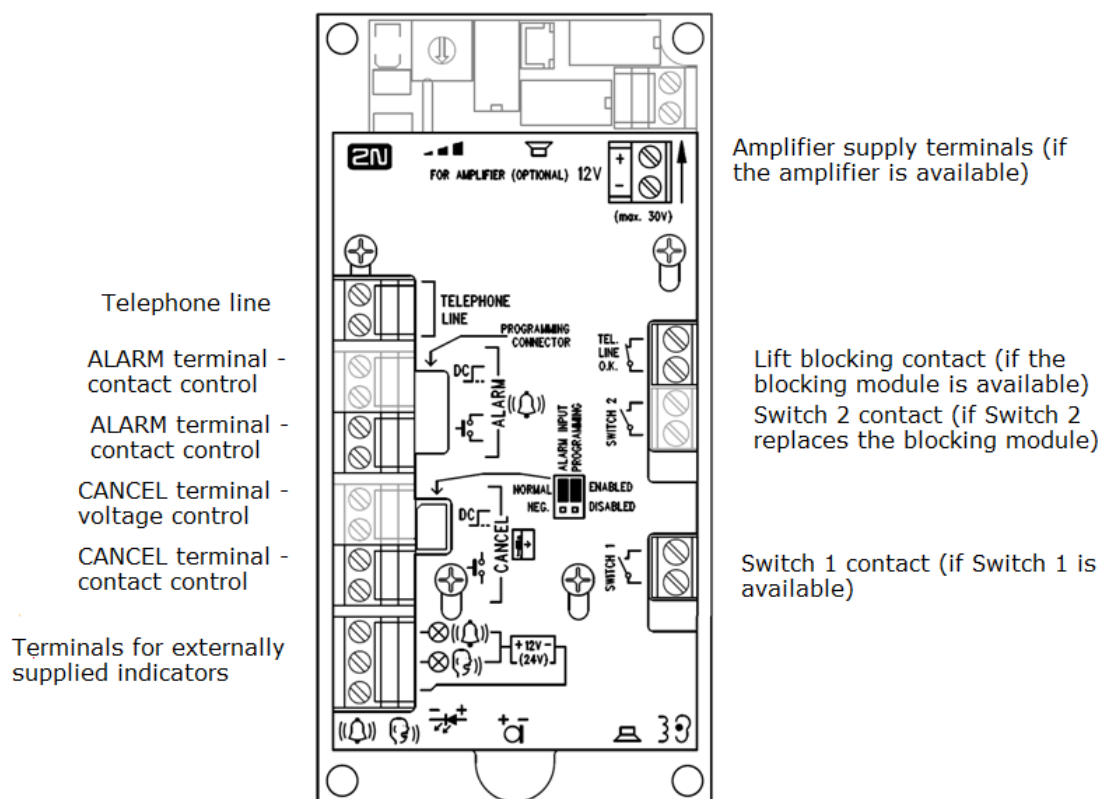
i Note

- Make sure that your indicators comply with the applicable legal regulations. However, no indicators are necessary for the **2N® Lift1** communication.

2.4 Installation – Universal Design

Description of Terminals, Connectors and Jumpers

Terminals



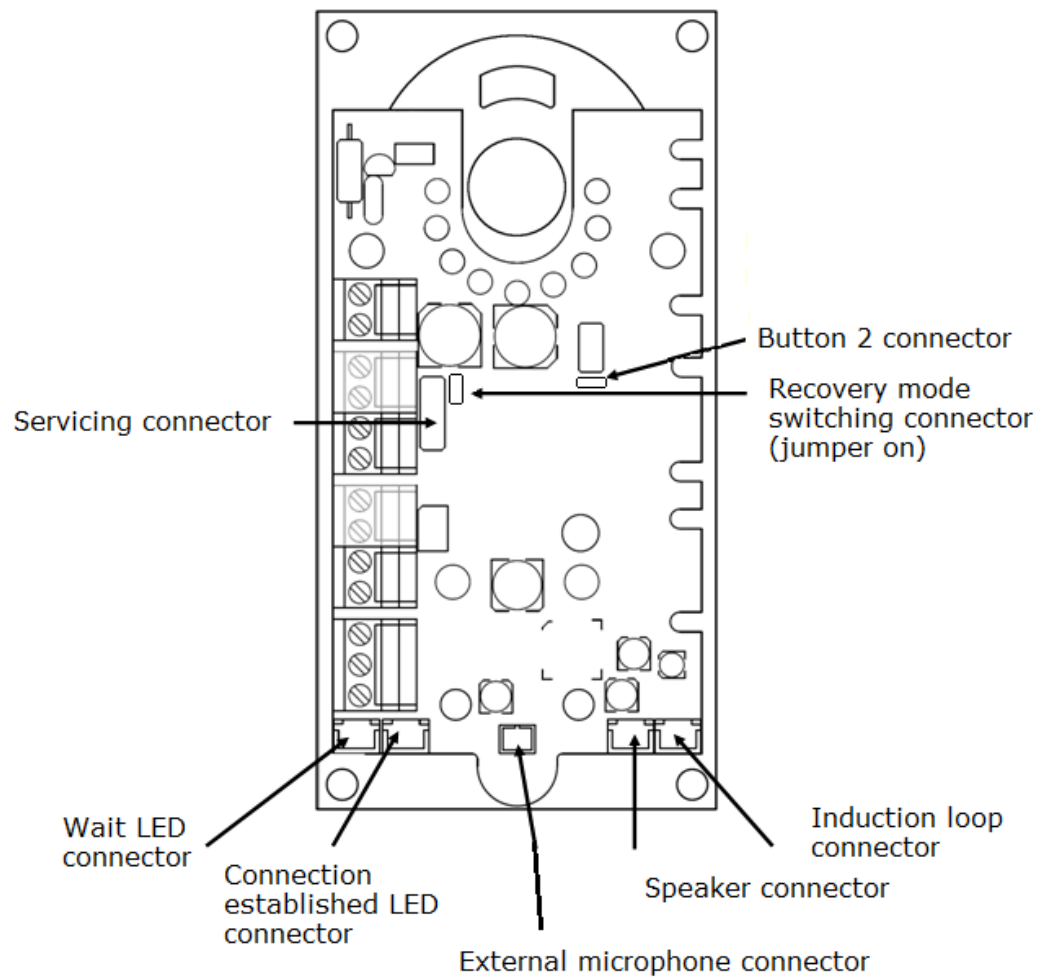
Note

- You can access the terminals without removing the cover.

Jumper Setting

Left jumper		Right jumper
ALARM input inversion		PROGRAMMING disable
up	contact closing or voltage connection control	up enabled
down	contact opening or voltage disconnection control	down disabled

Connectors Accessible after Cover Removal



✓ Tip

- To access the connectors on the lower edge of the board, loosen the cover screws slightly and move the cover upwards.

Description of Terminals and Connectors

Telephone line	Polarity does not matter. Connect a PSTN, PBX or GSM gateway line directly. CAUTION – Never connect multiple devices to a single line!!!		
ALARM terminal	voltage control *)	12 – 24 V DC voltage, any polarity	Alarm call activation
	contact control	closing/opening contact	
CANCEL terminal	voltage control *)	12 – 24 V DC voltage, any polarity	Alarm call deactivation
	contact control	closing/opening contact	
Indicator terminals *)	Indicators (illuminated pictograms) - up to 24 V / 2× 200 mA, externally supplied, wiring diagram must be maintained		
"Wait" LED connector	yellow	LEDs are not part of the delivery by default (except for cable versions). Connecting an external LED deactivates the LED on the board.	
"Connection established" LED connector	green		
External microphone connector	If an external electret microphone is connected (upon request), the integrated microphone is disconnected automatically.		
Speaker connector	The speaker is connected to this connector by default.		
Induction loop connector (optional)	The induction loop is not part of the delivery by default. Install the loop behind a non-conductive non-metallic cover. Polarity does not matter. Notes: <ul style="list-style-type: none"> ▪ Mounted behind a non-conductive non-metallic cover, the speaker works as an induction loop. ▪ The output is resistant against short-circuit. The output power is limited by a resistor. 		
Lift blocking contact *) **)	The contact opens whenever a power failure occurs. The lift arrives in the nearest floor and opens the door. The lift will not go on until the line function is recovered.		
Switch 2 contact *) **)	The switches are used for variable purposes and are remotely DTMF-controlled (numeric code). The switches are not designed for 230 V!		
Switch 1 contact *) **)			
Button 2 connector	Button 2 has a closing contact only.		
Service connector	Used for connection of 2N® Lift1 to the 2N® Lift1 Service Tool via a USB socket changer (refer to Subs. 3.3 for details).		

Recovery mode switching connector	<p>If there is a 2N® Lift1 - 2N® Lift1 Service Tool connection problem, put the jumper on this connector to switch 2N® Lift1 in to the recovery mode for firmware upgrade.</p> <p>Connect the button 2 contacts for 5 seconds to reset the factory values. It is equivalent to parameter 999 and can be used if the service password gets lost.</p>
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*) These terminals are safely electrically isolated from the telephone line.

***) Extending module terminals. The blocking module can be mounted if switch 2 is not installed.

2N® Lift1 Connection to Telephone Line

2N® Lift1 works regardless of polarity and line parameters (refer to Technical Parameters). Connect it using the LINE terminals. A great advantage of **2N® Lift1** is that it requires no additional power supply for its function. Refer to **2N® Lift1** Connection Methods for PSTN/PBX/GSM connection details.

ALARM Connection – Contact Control

Safety

- Make sure that the ALARM button is safe – keep the isolation distance of 1.5 mm and breakdown voltage of 1500 V at least. Never connect the button contacts to any other circuits. If you cannot meet these conditions, use voltage control.
- Connect the button contacts to the ALARM terminal leaving the terminal in the lower position.
- The button has both the NO and NC contacts. With the NC contact, switch the ALARM INPUT jumper into the NEG position.

ALARM Connection – Voltage Control

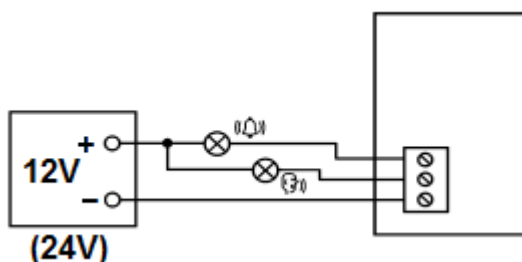
Tip

- Use 12 - 24 V DC voltage of any polarity. Make sure that the voltage supply is backed up against power failure.
- Slide the ALARM terminal out and put it in the upper position to ensure the required telephone line isolation.
- Activate connection by voltage connection or disconnection. With voltage disconnection, switch the ALARM INPUT jumper into the NEG position.

Indicator Connection

Basic Configuration

Use any indicators in this mode (illuminated pictograms/icons, e.g.). An external power supply provides the indicators with a sufficient brightness level. **2N[®] Lift1** contains switches only; current limitation, if required (for LEDs, e.g.), is ensured by a connected circuit. Unlike the LEDs supplied directly from the **2N[®] Lift1** electronics that do not shine during short-time on-hooks between automatically dialed calls (voltage cannot be detected from a hung-up line), the connection request indicator is illuminated during the whole connection setup time when external indicators are used.



Requirements

- 12 – 24 V power supply (backed up against power outage if required)
- Up to 200 mA continuous current (bulbs can be connected)
- Both the indicators must be connected!

⚠ Warning

- Maintain the power supply polarity!

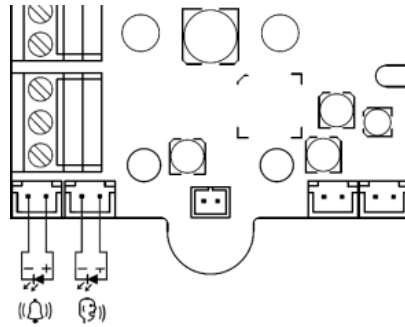
2N[®] Lift1 Board Mounted LEDs

Do not connect anything in this case.

Use light guides for this purpose to bring light to the two panel holes (refer to **2N[®] Lift1** Electronics Panel Mounting). The light guides are not included in the standard delivery.

Cable Connected LEDs

Use these LEDs where no illuminated pictograms are available. These LEDs are not included in the standard delivery. Order them separately or within a client solution. They are highly luminous LEDs of the diameter of 5 mm.



Requirements

- Maintain the LED polarity (see the cover printing).
- Keep the colours: request confirmation – yellow, connection confirmation – green.

Note

- The LED on the PCB is not illuminated in this configuration.

CANCEL Connection - Door Contact, Optional

Caution

- The door switch or door opening signal indicates that the door is open only if both the internal and external lift doors are open and people can leave the cabin.

Note

- To use the CANCEL input, program parameter 914 to a timeout longer than the maximum lift running time (i.e. the time during which the door is closed). If parameter 914 is set to 0, it is useless to set the CANCEL input connection.

Contact Control

Safety

- The CANCEL contact input is connected with the telephone line circuits. Therefore, make sure that the air gap between the switch and the other lift parts is 1.5 mm and the breakdown voltage is 1500 V at least. Make sure that the switch contacts are not connected to any other circuits. If these conditions cannot be met, use voltage control.
- Connect the switch to the CANCEL terminal leaving the terminal in the lower position.
- By default, **2N® Lift1** is configured for a switch that is closed when the door is open. If the switch is closed when the door is closed, set parameter 916 – refer to Programming).

Voltage Control

Use 12 to 24 V DC voltage of any polarity.

- Slide the CANCEL terminal out and put it in the upper position to ensure the required telephone line isolation.
- By default, **2N® Lift1** is configured for a sensor that applies voltage when the door is open. If the sensor applies voltage when the door is closed, set parameter 916 – refer to Programming).

Caution

- If voltage presence signals that the door is **closed**, make sure that the power supply is backed up against power outage.

Induction Loop Connection

The applicable communicator installation regulations may require a mandatory loop for persons with defective hearing in the lift cabin. In that case, connect the loop to the connector as shown in the Connectors Accessible after Cover Removal figure with any polarity. The loop including a 1m long cable can be part of your delivery if agreed so.

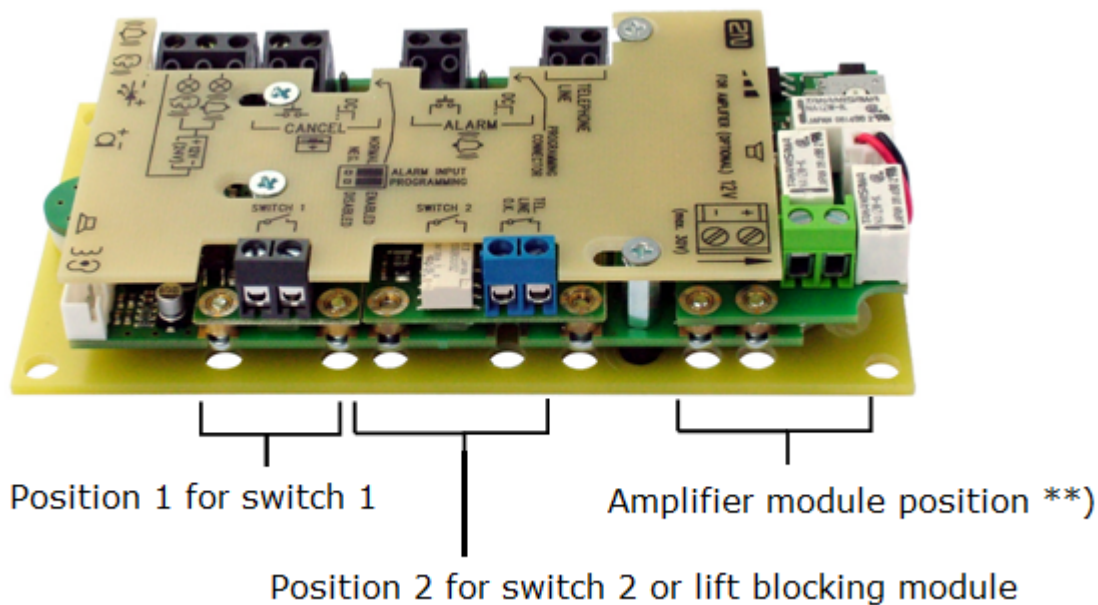


Requirements

- Install the induction loop behind a non-metallic, non-magnetic cover in the control panel as the magnetic field of the induction loop cannot go through a metallic lift control panel.
- Make sure that the induction loop is marked with a proper symbol (ear) and is installed in accordance with the applicable standards.

Extending Module Installation

Extending Module Positions



Switch Installation

Install the Universal switch module (Part No. 913648E) to position 1 or 2 before installing your **2N® Lift1** without removing the **2N® Lift1** cover. Slide the module into the cut-outs on the motherboard edges and tighten the two screws (through the panel holes).



⚠ Caution

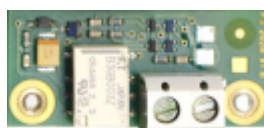
- Make sure that **both** the screws are tightened properly!

⚠ Warning

- In reality, the "contact" is represented by a semi-conductor with the resistance of approx. 0.5Ω in the closed mode. Closing at a voltage value lower than 9 V may result in troubles – the switch function cannot be tested using a standard ohmmeter, which only uses small voltage for metering.
- The maximum current to be switched is 1 A. The switch is protected against higher current values with a resettable fuse.
- The allowed voltage is 9 to 24 V DC / AC. The switch is protected against surges with an overvoltage protector.
- The switch "contact" is safely electrically isolated from the telephone line, but is designed exclusively for low-voltage current applications: cannot switch 230 V / 120 V mains voltage.

Lift Blocking Module Installation

Install the Lift blocking module (Part No. 913649E) to position 2 before installing your **2N® Lift1** (see the figure above) without removing the **2N® Lift1** cover. Slide the module into the cut-outs on the motherboard edges and tighten the two screws (through the panel holes).



⚠ Caution

- Make sure that **both** the screws are tightened properly!

Module function

The contact is closed when the telephone line is OK.

⚠ Caution

- The module responds to telephone line disconnection with an up to 2-minute delay.
- The maximum current to be switched is 1 A. The maximum allowed voltage is 24 V. It is a mechanical contact (relay).

⚠ Warning

- The module contact is safely electrically isolated from the telephone line, but is designed exclusively for low-voltage current applications: cannot switch 230 V / 120 V mains voltage.

Amplifier Installation

Follow the instructions enclosed to the amplifier delivery.

2.5 Connection Methods

Direct PSTN Connection

Advantages and Disadvantages

Direct PSTN connection is the easiest and most reliable method of connection. The purchase costs include the line acquisition cost, but the **2N® Lift1** operation is relatively cost-efficient (monthly fee).

Caution

- Make sure that the line is dedicated to **2N® Lift1** only and that no other terminal equipment is connected to it.
- The line must not be a dual or party line.

Note

- The telephone socket including the wires is the property of the telephone provider and may not be tampered with.
- Make sure that your follow-up cables meet the applicable safety regulations.
- Submit the **2N® Lift1** installation report and certifications if required.
- You are advised to protect your wires against piracy (use a phone lock, e.g.).

GSM Gateway Connection

Advantages and Disadvantages

GSM gateway connection is a rather expensive solution suitable for places without a telephone line.

Caution

- Back up the GSM gateway against power outage.
- Monitor the credit balance and top up your credit on time if you use a pre-paid SIM card.

Tip

- Check the local signal coverage and quality before choosing the GSM provider.
- Select the optimum antenna installation site.
- Use an external directional antenna for places with a poor signal quality.
- Ensure that the GSM gateway shall recover after power outage without requiring the PIN.
- Secure the GSM gateway SIM card against misappropriation.

PBX Connection

Advantages and Disadvantages

PBX connection is the cheapest solution for places where a PBX is installed and a free PBX line is available. Moreover, the **2N® Lift1** operational costs are zero if there is a well-trained staff continuously present in the building and **2N® Lift1** is programmed for exclusive connection with them.

Caution

- Check the type of PBX power outage protection because non-backed-up PBXs transfer some of their lines directly to PSTN lines in the event of power failure and **2N® Lift1** would call other destinations if a prefix is used in this case! Refer to the Tips below for solution.

To ensure that **2N® Lift1** shall make successful outgoing calls (i.e. via PSTN), follow the instructions below:

- Make sure that the line to be used has the required authorisation (use a standard phone to check whether outgoing calls to the defined numbers can be made via this line).
- Complete the PSTN access prefix while programming (zero as a rule) or set a direct PSTN line seizure.
- Identify the line (extension) and type of incoming connection (dial-in, DISA, operator) and configure the PBX to allow for incoming **2N® Lift1** calls at night too (i.e. without operator).
- Set the required authorisation for the extension to be used for calling to a mobile network (GSM).
- Make an arrangement with the PBX owner as to operation financing (the **2N® Lift1** outgoing calls are at the owner's expense).

Tip

- Operation financing can be solved by calling the "green lines" (prefix 0800).
- The so-called automatic PSTN seizure (requiring no dial-in) is a practical solution because being connected directly to a PSTN line during power outage, **2N® Lift1** will always call the right number.

3. Configuration

In this section, we describe the **2N® Lift1** configuration.
Here is what you can find in this section:

- [3.1 2N® Lift1 Programming](#)
- [3.2 Table of Parameters](#)
- [3.3 2N® Lift1 Programming Tool](#)

3.1 2N® Lift1 Programming

Before You Start

- Make sure that programming is enabled (jumper) and that your phone supports tone dialling.
- Complete all the values to be modified into a pre-prepared form, which provides a clear table of basic functions.
- If your **2N® Lift1** is not brand new, make sure that you have the correct service password and, if you are not completely sure of your **2N® Lift1** configuration, execute full initialisation (Warning: The service password will also be initialised!).

Access to Programming Mode

You can only enter the programming mode during an incoming call (from a phone to **2N® Lift1**). Enter the access password:

service password

(remember to enter an asterisk in front of and behind the password!). If the password is correct and programming is enabled (jumper), **2N® Lift1** announces:

"You have entered the programming mode"

and displays a Help according to the context. The default password is **12345** and you are recommended to enter a different password to protect your device against unauthorised persons.

Tip

- If you forget your service password, contact the manufacturer to avoid data loss.
- While entering the password, keep a timeout of 5 seconds (or any other value in the range between 1 and 9) for each character to avoid **2N® Lift1** hang-up and password/function re-entering.



Programming Procedure

Having entered the programming mode, you can change any programmable value(s) in any order. Proceed as follows: enter the parameter number and value. Use an asterisk as a separator or Enter. In general, the function has the following format:

parameter number **value**

The parameter number has three digits (see the table). After you enter the number and an asterisk, **2N® Lift1** reports the number/name, current value and potential range of the parameter to be programmed. After you enter the value and another asterisk, **2N® Lift1** announces "New value stored", or "Invalid value" if the value is beyond the allowed range.


 **Tip**

- **Programmed value check:** enter the parameter number and  , listen to the parameter value and press  to return to the main menu.



 **Caution**

- A drawback of some phones is that they go "deaf" for a fraction of a second whenever you press a button, i.e. send DTMF. In that case, you cannot hear the whole text and are recommended to use another phone.

Programming Error

- If you make a mistake while entering a number (function or value) and find it before clicking the asterisk, press  to cancel the whole number and enter a new one.
- If **2N® Lift1** rejects a parameter number or value, you can go on programming - enter the function number although you typed a wrong value.
- If you have programmed and saved a wrong value, re-enter a correct value.

Programming End

- Having saved all the values to be modified, press  to make **2N® Lift1** send an on-hook signal and hang up.
- If you do not press , **2N® Lift1** will hang up later without affecting the value saving process (the values are stored immediately in the memory).
- If you are not quite sure of how **2N® Lift1** will behave after programming, save the filled-in form for later check.






Message Recording

Record a message in the **programming mode** (refer to Programming above). This mode is protected with a password or the "Programming disable" jumper if necessary.

 **Caution**

- Change the setting of parameter 975 to play your message automatically when an outgoing call is made.

Procedure

1. Switch on the programming mode:  service password .
2. Enter the message recording command: 972  service password .
3. A continuous tone (up to 15 s) signals that the respective memory section is being deleted. Wait until the tone stops and you hear the confirmation tone .
4. Now **2N[®] Lift1** is recording the message of the maximum length of 30 s.
5. Press any digit (DTMF) on your phone to stop recording if your message is shorter than 30 s.
6. The recorded message is played back for check immediately.
7. Now go on programming.

Note

- The maximum message length is 30 seconds, Therefore, we recommend you to prepare the text and test the message time in advance. Remember that the lift must be identified uniquely and that some messages are intended also for foreigners, in hotels, for example. Speak distinctly and loudly and watch the time while recording long messages.
- The message quality depends on the speaker (professional speakers are recommended for official announcements), phone (do not use HandsFree or obsolete carbon microphone telephone sets), ambient noise and connection quality (the best solution is to record a message via a PBX in advance).
- Message check: the message is played back for check immediately after recording.

Acoustic Settings

- In the **2N[®] Lift1** HandsFree mode, the sound path is muted when there is "silence" on both sides. When a certain sound level is exceeded, the speaker or microphone switches on depending on which party is speaking (or speaking more loudly).
- The optimum acoustic parameters are set by default and should be modified in exceptional cases only. Use parameters 931 through 938 to modify these values.







Switch Programming

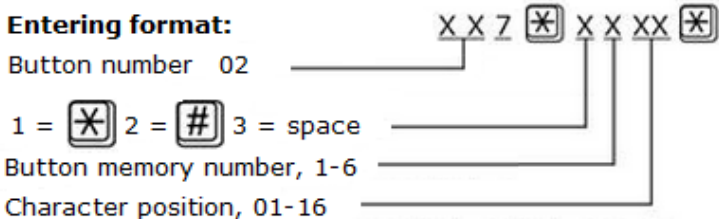
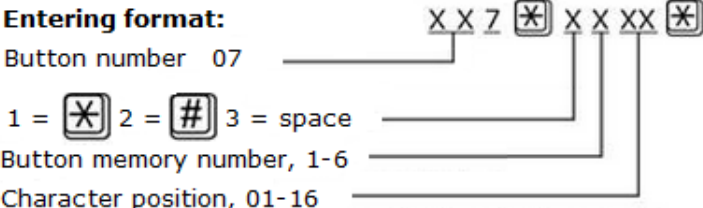
- Passwords 00 and 11 are preset for the two switches (see the table). Remember to cancel the old password before entering a new one!
- You can program up to 6 different passwords for each switch. This allows you to assign various passwords to multiple persons and cancel any of the passwords without cancelling the others to disable a person if necessary.
- All passwords are checked during programming, i.e. it is forbidden to enter a password twice for one switch. However, you can enter one and the same password for either switch.
- If you want to use a quicker switch activation method (enter the password without the characters), be careful while entering passwords of variable lengths: if the shorter password is identical with the beginning of the longer password, you cannot control the switch with the longer password. Moreover, the password should not begin with digits 1 to 5 if you use Automatic dialling with confirmation at the same time.

3.2 Table of Parameters

The table below includes all the **2N[®] Lift1** programming functions.

Table of Parameters

Par. No.	Parameter name	Range of values	Default value	Note
011	ALARM button memory 1	up to 16 digits: 0-9	empty	Enter  ,  and 'p' for a 3-second pause while programming via the 2N® Lift 1 Service Tool or using parameter 017.
012	ALARM button memory 2	up to 16 digits: 0-9	empty	
013	ALARM button memory 3	up to 16 digits: 0-9	empty	
014	ALARM button memory 4	up to 16 digits: 0-9	empty	
015	ALARM button memory 5	up to 16 digits: 0-9	empty	
016	ALARM button memory 6	up to 16 digits: 0-9	empty	
017	Insert specific character in ALARM memory	<p>Entering format:</p> <p>Button number 01 </p> <p>1 =  2 =  3 = space</p> <p>Button memory number, 1-6</p> <p>Character position, 01-16</p> <p>Note: The digits behind this position are shifted automatically.</p>		
018	Count of automatic dialling cycles for ALARM	0-9	3	If 0 is set, only the first number in the memory is called regardless of the count of stored numbers.
021	Button 2 memory 1	up to 16 digits: 0-9		Enter  ,  and 'p' for a 3-second pause while programming via the 2N® Lift1 Service Tool or using
022	Button 2 memory 2	up to 16 digits: 0-9		
023	Button 2 memory 3	up to 16 digits: 0-9		
024	Button 2 memory 4	up to 16 digits: 0-9		
025	Button 2 memory 5	up to 16 digits: 0-9		

026	Button 2 memory 6	up to 16 digits: 0-9		parameter 027.
027	Insert specific character in button 2 memory	<p>Entering format:</p>  <p>1 = * 2 = # 3 = space</p> <p>Button number 02</p> <p>Button memory number, 1-6</p> <p>Character position, 01-16</p> <p>Note: The digits behind this position are shifted automatically.</p>		
028	Count of automatic dialling cycles for button 2	0-9		If 0 is set, only the first number in the memory is called regardless of the count of stored numbers.
071	Check call memory 1	up to 16 digits: 0-9	empty	<p>Enter *, # and 'p' for a 1-second pause while programming via a PC (use 2N® Lift 1 Service Tool).</p>
072	Check call memory 2	up to 16 digits: 0-9	empty	
073	Check call memory 3	up to 16 digits: 0-9	empty	
074	Check call memory 4	up to 16 digits: 0-9	empty	
075	Check call memory 5	up to 16 digits: 0-9	empty	
076	Check call memory 6	up to 16 digits: 0-9	empty	
077	Insert specific character in check call memory	<p>Entering format:</p>  <p>1 = * 2 = # 3 = space</p> <p>Button number 07</p> <p>Button memory number, 1-6</p> <p>Character position, 01-16</p> <p>Note: The digits behind this position are shifted automatically.</p>		
078	Count of automatic dialling cycles for check call	0-9	3	If 0 is set, only the first number in the memory is called regardless of the count of stored numbers.
111	Automatic dialling type for ALARM button memory 1	1-6	1	

112	Automatic dialling type for ALARM button memory 2	1-6	1
113	Automatic dialling type for ALARM button memory 3	1-6	1
114	Automatic dialling type for ALARM button memory 4	1-6	1
115	Automatic dialling type for ALARM button memory 5	1-6	1
116	Automatic dialling type for ALARM button memory 6	1-6	1
121	Automatic dialling type for button 2 memory 1	1-6	1
122	Automatic dialling type for button 2 memory 2	1-6	1
123	Automatic dialling type for button 2 memory 3	1-6	1
124	Automatic dialling type for button 2 memory 4	1-6	1
125	Automatic dialling type for button 2 memory 5	1-6	1
126	Automatic dialling type for button 2 memory 6	1-6	1
171	Automatic dialling type for check call memory 1	1-6	2

1 = loud with confirmation

2 = silent with confirmation

3 = loud without confirmation

4 = CPC Antenna support

5 = CPC Kone support


6 = P100 support

If the ringback tone is detected and stops before the selected count of cycles is expired (parameter 954) in the Automatic dialling without confirmation mode (3), the call is considered successful.

172	Automatic dialling type for check call memory 2	1-6	2	
173	Automatic dialling type for check call memory 3	1-6	2	
174	Automatic dialling type for check call memory 4	1-6	2	
175	Automatic dialling type for check call memory 5	1-6	2	
176	Automatic dialling type for check call memory 6	1-6	2	
880	Switch 1 activation time	0-10 s	9 s	0 = switch is disabled
881	Switch 1 password memory 1	up to 16 digits: 0-9	00	Passwords for switch 1 activation during a call
882	Switch 1 password memory 2		empty	
883	Switch 1 password memory 3		empty	
884	Switch 1 password memory 4		empty	
885	Switch 1 password memory 5		empty	
886	Switch 1 password memory 6		empty	
890	Switch 2 activation time	0-10 s	9 s	0 = switch is disabled
891	Switch 2 password memory 1	up to 16 digits: 0-9	11	Passwords for switch 2 activation during a call
892	Switch 2 password memory 2		empty	
893	Switch 2 password memory 3		empty	
894	Switch 2 password memory 4		empty	

895	Switch 2 password memory 5		empty	
896	Switch 2 password memory 6		empty	
901	Dialling type	0-1	0	0 = tone 1 = pulse 40/60
911	Count of rings before incoming call pick-up	1-99	2	Define the off-hook moment during ringing.
912	Maximum call time	15-990 s	120 s	Use the call-extending command (parameter 924) to extend the call. 0=disabled (DTMF 4 or *).
913	Login time limit	10-990 s	60 s	Set the maximum period of time for the control centre staff to answer the call and send confirmation, otherwise 2N® Lift1 hangs up and dials the next number. Counted from the end of dialling.
914	Delayed call	0-100 s	0 s	Applied only if the CANCEL input is connected.
915	Hang-up timeout between calls	5500-9999 ms	5500 ms	
916	CANCEL input inversion	0-1	0	0 = contact closed (or voltage present) at open door 1 = contact closed (or voltage present) at closed door
933	Receive volume	0-16	16	16 = maximum volume (0 dB) 0 = minimum volume (-16 dB)
934	Transmit volume	0-16	16	
935	Message volume	0-16	16	
940	Minimum dialtone time	200-2000 ms	400 ms	The tone must be longer than the busy tone half-period.
941	Minimum continuous tone time	200-9999 ms	7000 ms	If the tone is longer, 2N® Lift1 hangs up.
942	Minimum busy tone period	100-500 ms	100 ms	Use these parameters to adjust the busy tone detection.
943	Maximum busy tone period	100-2500 ms		
944	Maximum busy tone - gap	10-400 ms	50 ms	

945	Minimum count of busy tone periods	2-50	5	
948	Minimum ringback tone time	50-2000 ms	500 ms	For outgoing call detection: The ringback tone time is a time interval before the long gap. The longest ringing period gap must be in the interval between parameters 949 and 950.
949	Minimum ringback tone long gap time	100-5000 ms	1000 ms	
950	Minimum ringback tone long gap time	500-9999 ms	5500 ms	
951	Minimum ringing time	50-2000 ms	500 ms	For incoming call detection: The ringtone time is the sum of sections between which there is no long gap. The longest ringing period gap must be in the interval between parameters 952 and 953.
952	Minimum ringing long gap time	100-5000 ms	1000 ms	
953	Maximum ringing long gap time	500-9999 ms	6000 ms	
954	Count of ringback tone periods	1-99	10	2N® Lift1 hangs up after this count and dials the next number if Automatic dialling is enabled.
961	Maximum interdigit time	5-120 s	10 s	For password entering
962	Minimum cabin ALARM button pressing time	100-9999 ms	5000 ms	Applies to the ALARM button and button 2.
964	Minimum CANCEL input activation time	100-9999 ms	100 ms	
971	Message repeating count	0-9	3	There is 5-second space between two announcements.
972	Message recording	0-30 s	empty	User announcement recording function, can be used for lift identification.
974	Lift identification number	up to 16 digits: 0-9	empty	Numeric lift identification

975	Message options	2 digits	55	<p>1st digit = message that is repeated after number dialling</p> <p>2nd digit = message that is played after connection confirmation and call end</p> <p>The meanings of the digits are as follows:</p> <p>1 = play user message recorded via parameter 972</p> <p>2 = read identification – parameter 974</p> <p>3 = combine options 1 + 2</p> <p>4 = send identification by DTMF</p> <p>5 = message as specified in parameter 977 (after confirmation according to parameter 976)</p> <p>6 = combine options 5 + 2</p> <p>7 = confirmation tone (after confirmation only)</p>
976	Message options after confirmation and call end	0–9	1	<p>0 = 🎵</p> <p>1 = Czech</p> <p>2 = English</p> <p>3 = Slovak</p> <p>4 = German</p>
977	Message language selection during call setup	0–9	1	<p>5–9 = 🎵</p> <p>10 to 99 = silence</p> <p>Note:</p> <p>Refer to Subs. 4.2 for <u>Message Overview</u>.</p> <p> Caution! The order of the first two languages is inverse in the export versions: 1 = English, 2 = Czech!</p>

981	Check call mode	0-5	0	<p>0 = disabled</p> <p>1 = enabled, first call in 3 minutes and then as set in parameter 983</p> <p>2 = enabled, first call in 2 hours and then as set in parameter 983</p> <p>3 = enabled, call as set in parameter 983</p> <p>4 = enabled, call on the nearest day set in parameter 986</p> <p>5 = enabled, first call in 3 minutes and then as set in parameter 986</p> <p>6 = enabled, first call in 3 minutes and then as set by the server during the call</p>
982	Check call interval	hhmmhhmm	00002359	Set announcements for lower traffic (lower tariff) time, generated at random in the set time interval.
983	Check call period	0-100 days	3 days	0 = disabled (setting parameter 981 to 0 has the same effect), the value will be applied if parameter 981 is set to 1-6.
984	Time setting	hhmm		Read the current time setting and set a new value if necessary.
985	Data setting	RRMMDD		Read the current date setting and set a new value if necessary.
986	Weekdays for check calls	mtwtfss	0000000	<p>Values for Mon, Tue, Wed, Thu, Fri, Sat, Sun:</p> <p>0 = do not call 1 = call</p> <p>Example: 1000100 = the check call will be made on Mondays and Fridays.</p>
991	Programming menu password	up to 16 digits: 0-9	12345	Change the default programming password for access to the programming mode via a voice menu and for full initialisation.
995	SW identification			Read the SW version. Writing is not allowed.
996	User message deletion			Delete the user message recorded via parameter 972.
997	Switch 1+2 password initialisation	insert service password		Set the default passwords (00 and 11) for switches 1 and 2. Re-enter the service password to avoid unintentional deletion of the 2N® Lift1 switch passwords.

998	Dialling memory deletion for all buttons	insert service password		Delete all the memories (ALARM, button 2, check call memories). Re-enter the service password to avoid unintentional deletion of the 2N[®] Lift1 memories.
999	Full initialisation (including service password)	insert service password		Set the 2N[®] Lift1 factory values. Re-enter the service password to avoid unintentional deletion of 2N[®] Lift1 .

 **Note**

- Independent of power supply, the used memory is capable of keeping data for 10 years at least unless **2N[®] Lift1** is damaged electrically.

3.3 2N® Lift1 Programming Tool

You can program **2N® Lift1** via a PC and the **2N® Lift1 Service Tool** application. To connect the **2N® Lift1** audio unit, however, you need a special programming interface, **2N® Lift1 Programming Tool** (Part No. 919680E). Connect the **2N® Lift1 Programming Tool** to your PC via a USB A-B cable and to **2N® Lift1** via a special 10-wire cable. Connect the 10-wire cable to the audio unit board header, whose position is clearly marked on the audio unit back panel.

⚠ Caution

- The **2N® Lift1 Programming Tool** is a crucial component allowing you to program **2N® Lift1** via a PC and **2N® Lift1 Service Tool**.

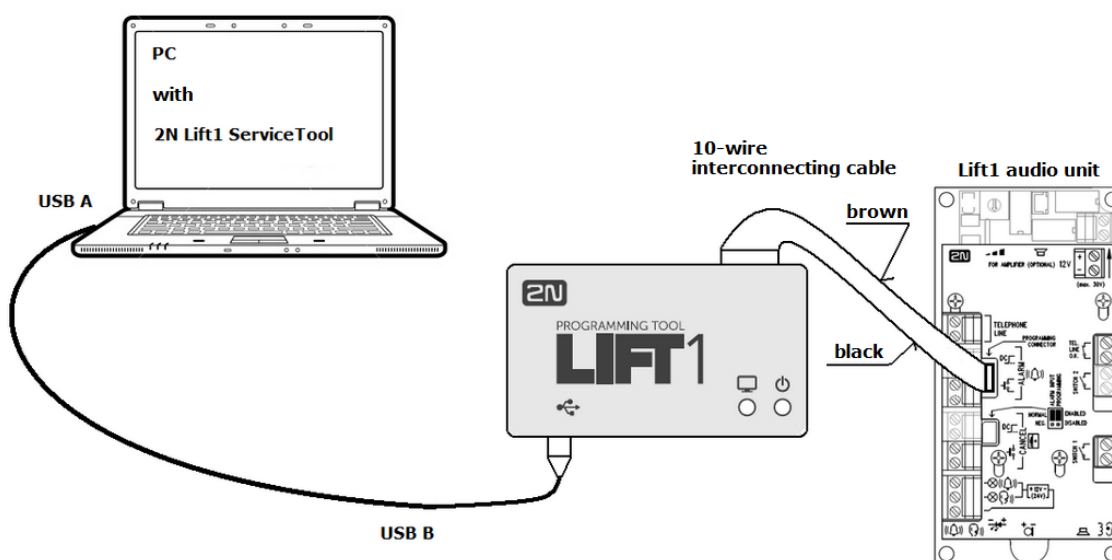


Figure: 2N® Lift1 Programming Tool Connection

When the **2N® Lift1 Programming Tool** is connected to a PC, the device is detected and the proper driver is installed. The **2N® Lift1 Programming Tool** is then automatically assigned a COM port. View the COM port in the Connect to device menu in the **2N® Lift1 Service Tool**. Refer to S. 5 for more **2N® Lift1 Service Tool** details.

i Note

- Being programmed, **2N® Lift1** is powered from the USB port and need not be connected to a telephone line. Having been disconnected, however, **2N® Lift1** loses power and thus all unsaved data.
- To make your **2N® Lift1** remember time, leave the line connected during programming. Thus, no data will be lost after USB disconnection and the line will be detected as seized during programming.
- The programming interface provides galvanic isolation of the PC and **2N® Lift1**.
- The 10-wire interconnecting cable has no key on the **2N® Lift1** side, so respect the cable colours (see the figure). An inverse connection does not damage the device.
- Correct PC and **2N® Lift1** connections are indicated by the blue LED on the edge, which goes on and signals power supply.
- If the PC-**2N® Lift1** interconnecting program is running in **2N® Lift1**, the green LED starts shining. If not, mount the proper jumper (refer to 2.4 - Installation) to switch **2N® Lift1** into the recovery mode.
- The green LED flashes to indicate programming.

4. Function and Use

This section describes the basic and advanced functions of the **2N® Lift1** product. Here is what you can find in this section:

- [4.1 Function Description](#)
- [4.2 Service and Operating Staff Instructions](#)

4.1 Function Description

Note

- The purpose of this section is to help technically trained persons get insight into the processes running in **2N® Lift1** during operation. This information is unnecessary for common **2N® Lift1** installations.

Outgoing Call

Press the ALARM button to activate **2N® Lift1**. **2N® Lift1** seizes ("picks up") the line and sets up connection with the continuously working personnel or the control centre (refer to Automatic Dialling for details). During the call setup, the person in the lift can hear the dialtone, dialling, ringback tone and "Wait please, connection is being made" or any other announcement if available. The announcement can also include the **2N® Lift1** identifying data (address, lift number, etc.). When the operation staff receives the call, the parties can start speaking.

Check Call

A check call is an automatically made outgoing call whose purpose is to check the function of the **2N® Lift1** system. Unlike common outgoing calls, check calls have different announcements ("Check call") and use different phone number sets. Typically, check calls are received automatically if the control centre is equipped with the **2N® Lift8** software. All you need to operate the program is a standard PC with a VoIP account.

Incoming Call

The control centre can also call the **2N® Lift1** number. **2N® Lift1** automatically answers the line after two rings (or as configured) and sends a sound signal. The purpose is to provide the person trapped in the lift with necessary information (about rescue, for example) and check remotely whether **2N® Lift1** is connected and works properly.


Useless Startup Protection



As the only purpose of **2N® Lift1** is to call help in case of emergency, any call made when the door is open is considered useless. Hence, connect the door contact if available to the **2N® Lift1** CANCEL input and program a connection establishing delay after ALARM pressing. In this case, if the ALARM button is pressed by mistake, the lift arrives in the next floor and the door opens thus cancelling the call. Or, you can set the minimum button pressing time to prevent unintentional ALARM pressing.

Automatic Dialling of Multiple Numbers with Confirmation








Caution

- This is the default **2N® Lift1** mode that provides the most reliable connectivity. You can disable this mode or cancel confirmation, but the manufacturer shall not be liable for consequences if any in this case.

You can save up to 6 phone numbers and a defined count of redialling attempts for the **ALARM** button in the **2N® Lift1** memory. **2N® Lift1** then tries to call the listed numbers using tone dialling (DTMF) as the most reliable confirmation criterion. The dispatcher presses  on its phone (DTMF). If the called number is busy or unanswered within a timeout or for other reasons (see the table), **2N® Lift1** tries to call the next number(s) in the sequence until exhausting the defined count of cycles. If the count is 0, automatic dialling is disabled and **2N® Lift1** call one number only.

In this mode, **2N® Lift1** repeats the "Wait please" announcement (or any other user message) after redialling as many times as specified. Press  or  (call confirmation) to mute the announcement.

Evaluation of Loud Automatic Dialling with Confirmation

Situation	Response
Silence/busy tone after line pick-up	This situation does not affect the 2N® Lift1 operation. 2N® Lift1 makes dialling at any line state and only then evaluates the situation.
Busy tone (after dialling)	2N® Lift1 hangs up in approx. 2 seconds and dials the next number (can be changed by parameter 945).
Call or silence	2N® Lift1 waits for a preset time (login timeout), then hangs up and dials the next number.
Ringing tone	2N® Lift1 waits for a preset count of rings, then hangs up and dials the next number.
Continuous tone (on PBX line)	2N® Lift1 hangs up in approx. 7 seconds and dials the next number.
DTMF character  or 	2N® Lift1 hangs up immediately and dials the next number.
DTMF character 	2N® Lift1 plays the "Connection confirmed" message (can be changed by parameter 975). The call takes the maximum preset time (Maximum call time).
DTMF character 	2N® Lift1 sends its Id but the connection is not confirmed. Used for such applications as the 2N® Lift Manager .
  	These digits are interpreted as control characters (refer to Subs. 4.2. - Service and Operating Staff Instructions).

⚠ Caution

- The PSTN connection quality does not allow for recognition of all the above listed situations. In addition, excessive noise in the lift cabin can adversely affect (decelerate) automatic dialling making it impossible to recognise the busy tone, for example. In general, DTMF is the most reliable confirmation signalling method as DTMF connection is always established (yet for a shorter time) even if **2N® Lift1** fails to recognise DTMF.

Automatic Dialling of Multiple Numbers without Confirmation

This mode is useful where no trained personnel are available because the called person does not have to press any button. The two modes share a set of numbers, count of cycles, response to the busy tone, e.g., and so on. The difference is that the no-confirmation mode recognises the ringing tone and if the tone ends before the preset count of rings is exhausted, it means that the called user is off-hook and this is considered a successful connection.

⚠ Warning

- Check the no-confirmation mode before use because ringing tones may be different in different countries/providers and may not be recognised correctly.

i Note

- In this mode, **2N® Lift1** does not repeat the "Wait please" announcement (or any other user message) after dialling because it would be impossible to recognise ringing reliably. The message is played once and shortly after the called user picks up the line. **2N® Lift1** cannot be controlled with the **1** to **5** buttons.

Evaluation of Loud Automatic Dialling without Confirmation

Situation	Response
Silence/busy tone after line pick-up	This situation does not affect the 2N® Lift1 operation. 2N® Lift1 makes dialling at any line state and only then evaluates the situation.
Busy tone	2N® Lift1 hangs up in approx. 2 seconds and dials the next number.
Call or silence	2N® Lift1 waits for a preset time (login timeout), then hangs up and dials the next number.
Continuous tone (on PBX line)	2N® Lift1 hangs up in approx. 2 seconds and dials the next number.
Ringing tone, which stops before 10 rings (configurable)	The call is considered successful, takes the maximum preset time (Maximum call time). The message is played once.
Ringing tone, which reaches 10 rings (configurable)	2N® Lift1 hangs up and dials the next number.
1 through 9, 0	These digits are interpreted as a beginning of the switch control password.
#	2N® Lift1 hangs up and dials the next number.

Warning

- Make sure before using this mode that no VoiceMail box, fax machine or any other device that could answer the call before the preset rings is installed on any of the numbers to be called to avoid automatic dialling termination.

Call End (Outgoing/Incoming)

The call end (line hang-up) occurs whenever any of the below listed situations happens:

- The busy or continuous tone is detected (PBX call end).
- The maximum call time expires – **2N® Lift1** plays "Attention, the call is ending" 10 seconds before expiration for you to extend the call if necessary.
- The # or 5 character is received.
- The time limit expires during programming.
- The count of ringback tone periods exceeds the value set in parameter 954; the dialling attempt is terminated and calling continues according to the automatic dialling parameters.

Note

- The communicator is able to detect the continuous, busy and ringback tones even if the tone had two frequency components as in Great Britain, USA (BTT) and Canada.

4.2 Service and Operating Staff Instructions

DTMF Control during Call

Tone dialling can be used for **2N® Lift1** control during calls as shown in the table below if Automatic dialling with confirmation is enabled. Commands 1 to 5 are arranged conveniently for typical use.



DTMF character	Function
1	Confirm to 2N® Lift1 that the call was successful. 2N® Lift1 mutes the currently played announcement and sends its confirmation signal. The call goes on until the call time limit is exhausted and any of the following commands can be used.
2	Mute the voice module. CAUTION – this is unnecessary for calls with the new software version.
3	Play the user message if stored in 2N® Lift1 .
4 or X	Extend the call by 30 seconds. Can be used repeatedly.
5 or #	Terminate the call.
6	2N® Lift1 sends its DTMF confirmation but the connection is not confirmed. Used for 2N® Lift Manager only.
7 to 9 and 0	These digits are interpreted as a beginning of the switch control password.

The above table applies to Loud automatic dialling with confirmation.

Note

- **You cannot use the 2N® Lift1 microphone** while the announcement is being played! Therefore, use function 1 or 2 to speak to the person in the lift.
- The above listed commands are sometimes **not received** in case they are sent during announcements when the connection is very poor. Therefore, **2N® Lift1** inserts a 3-second pause between the announcements to ensure reliable receiving of DTMF commands.

Switch Control





The switches if available can be used during outgoing and incoming calls. Activate the switch with a preset password in the following format:  password  of the maximum length of 16 digits. **2N[®] Lift1** confirms switch activation and closes the switch for a preset time (1 to 10 seconds) sending a tone signal (see the signalling table). The call is terminated in 30 seconds after the switch activation time.

Tip

- Use the switch for lift reset, for example. Control each switch with up to 10 passwords. You can also leave out the asterisks if the password begins with 7 to 9 or 0 (this applies to the Automatic dialling with confirmation mode).


2N[®] Lift1 Signalling

2N[®] Lift1 uses various signals to communicate with the operating staff during programming. Refer to the table below for a list of these signals:

Signal	Name	Meaning
	Confirmation	The signal is sent to the line (for the calling user) when the incoming call is answered. Remote switch activation.
	Rejection	This signal is sent when a non-programmed button is pressed. When the communicator gets connected to the line, the connection signal is heard from the speaker. This tone is sent instead of confirmation in incoming calls to signal that 2N[®] Lift1 is not configured or memory data are corrupted.
	Saving	End of remote switch activation
	Hang-up	This signal is sent just before the call end (in all the cases).
Long continuous tone	Deletion	The tone is sent to signal dialling memory deletion, full initialisation and memory deletion before user message recording.
"Attention, the call is ending"		This announcement is sent during outgoing/incoming calls to signal that the maximum call time will expire in 10 seconds.
"Wait please ..."		Optional announcement during call setup
"Communicator number ... is calling"		Optional lift identifying announcement
Voice menu		In the programming mode

Announcements

The table below includes a list of language versions of standard announcements. Czech is the factory value. Use parameters 976 and 977 to change the language.

Parameter 976 value	Language selection	Call end announcement	Outgoing call announcement	Connection confirming announcement if parameter 975 ends with digit 5	Check call identifying announcement
	Czech version		Identification report if parameter 975 includes digit 2, 3 or 5		
0	Tone signal		off	off	off
1 (default)	Czech	Pozor, končí hovor	Volá komunikátor číslo	Spojení potvrzeno	Kontrolní volání
2	English	Attention, your call is being terminated	Communicator number..... is calling	Connection confirmed	Checking call
3	Slovak	Pozor, končí hovor	Volá komunikátor číslo		Kontrolné volanie
4	German	Achtung, das Gespräch wird beendet	Es ruft das Notruftelefon Nummer.....an.		Der Kontrollanru

Parameter 977 value	Language selection – Czech version	Outgoing call announcement	Note
0	Tone signal	off	<ul style="list-style-type: none"> ▪ This announcement is played if parameter 975 begins with digit 5. ▪ The range of parameter 977 is 0 – 99. Additional announcements can be added to customer versions (more options and languages).
1 *)	Czech	Čekajte, prosím	
2	English	Wait please	
3	Slovak	Čakajte, prosím	
4	German	Warten Sie bitte	

Caution

- English has number 1 in the English version and West European languages can be selected.

2N[®] Lift1 Identification

If parameter 974 is set to any value and parameter 975 includes 2, 3 or 6, **2N[®] Lift1** identifies itself automatically with the "Communicator number ... is calling" announcement. Set the lift identification announcement using parameter 976.

5. Service Tool

Here is what you can find in this section:

- [5.1 Installation and Login](#)
- [5.2 Introduction to Application](#)
- [5.3 Use](#)

Refer to the 2N TELEKOMUNIKACE official websites, **2N® Lift1** download section, for the latest application versions. You can use this [link](#) to consult the online manual.

5.1 Installation and Login

After the installation is launched, the installation program will scan your PC for another **2N® Lift1 Service Tool** version and ask you to uninstall the currently available version if identical with the new one. Use the system control panel Add or Remove programs to uninstall the existing product version for reinstallation or reconfiguration. If the versions are not identical, the original version will be uninstalled and a new application version will be installed. Then you will also be asked whether the configuration files should be retained or the application with an empty database should be installed.

Now the **2N® Lift1 Service Tool Setup Wizard** has been launched. Follow the wizard instructions. Select the **2N® Lift1 Service Tool** installation location: **C:\Program Files (x86)\2N TELEKOMUNIKACE\2N Lift1** is used by default. Also define whether the application shall be installed for the currently logged-in user, or all the PC users.

Now the wizard is ready to install the **2N® Lift1 Service Tool**. Confirm the user account administration notification to the Windows system if necessary. Another Start item and a desktop shortcut icon will be added automatically.

Tip

- The wizard will install the USB port driver if unavailable to identify the Central Unit connected.

Note

- The **2N® Lift1 Service Tool** installation requires **500 MB** of free disk space at least.

Now the **2N® Lift1 Service Tool** is ready for use. Click the shortcut item on the desktop (see the figure below) or select the Start item to start the application.



Figure: 2N® Lift1 Service Tool Icon

After the application launch, the splashscreen gets displayed to inform you of the application manufacturer and current version. After the launch, you will see the basic screen and Configuration / Parameters menu. Here an offline table of parameters can be prepared for you to export the data. Click Connect device to get connected to the **CU** and move to the Connect to device menu. Select the **2N® Lift1** COM port and click Connect to get connected to the **2N® Lift1 CU**. The configuration table will be downloaded automatically.

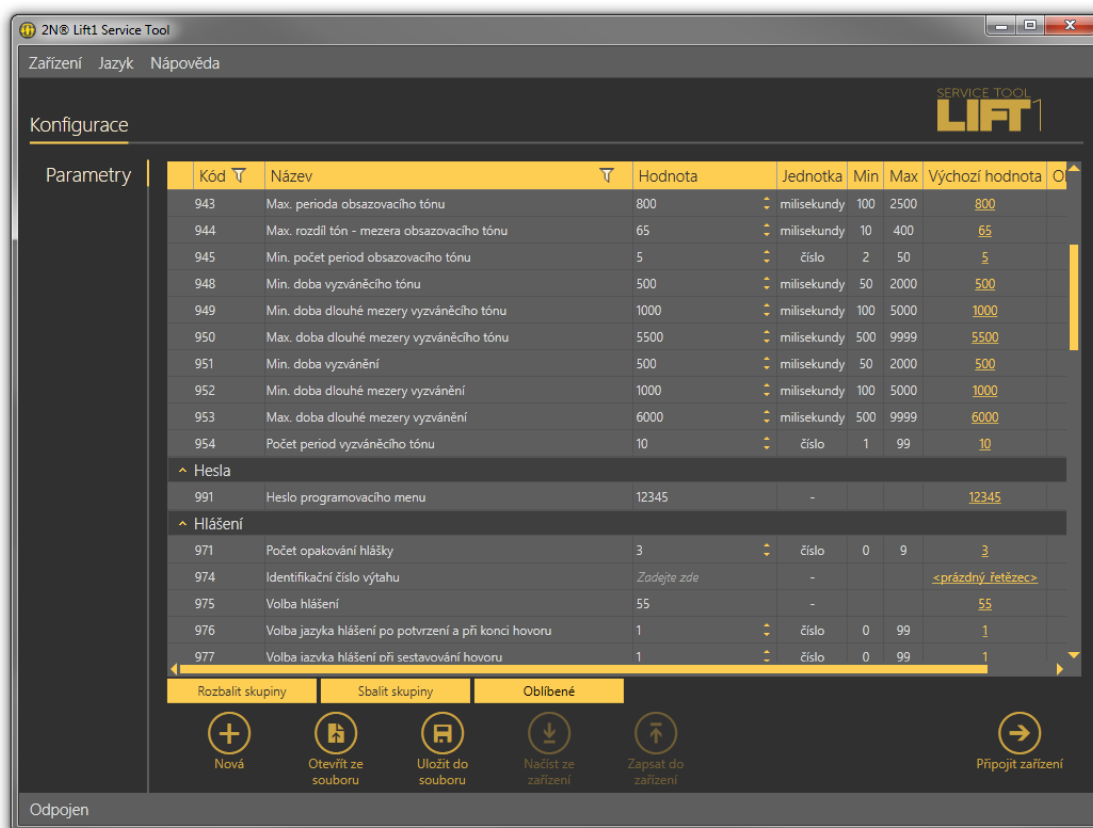


Figure: Application Window

Tip

- The list of available COM ports only displays the ports to which the **2N® Lift1** programming level is connected.

Warning

- Make sure that the USB port driver for **2N® Lift1** is properly installed on the logging-in PC. If not, the device will not be recognised and you will be unable to connect to it.
- If the Incompatible .NET version message is displayed upon the wizard launch, download the current .NETFX4.0 redistribution from the 2N TELEKOMUNIKACE websites or use the link [here](#).
- The minimum OS requirements are **Windows Vista 7, 8**.

5.2 Introduction to Application

In this subsection, we will show you the application menu layout and basic controls. The application is divided into three menu levels. The first screen upon start includes Configuration / Parameter / Basic (see the figure below), which displays all of the three menu levels. The horizontal Main menu (Configuration) helps you select whether to configure the **2N® Lift1** system or record new voice menus. The vertical menu (Parameters) help you select the area to be administered. The third menu level, if meaningful, gets displayed horizontally to the right and includes a list of parameter setting forms.

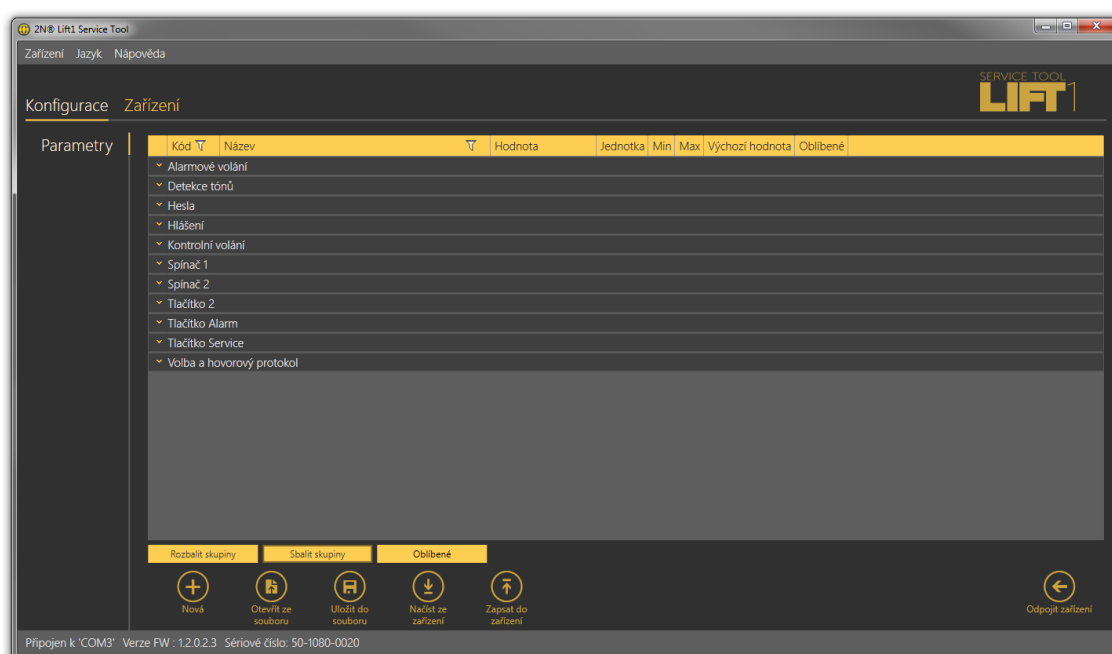


Figure: 2N® Lift1 Service Tool Window

The main menu contains three pop-up menus. The Device menu helps you connect to or disconnect from the CU. Select the language mutation in the Language menu: CZ and EN are available so far. The Help menu provides a link to the latest manual version and information on the supplier. You will always be warned before logout or quit against potential data loss.

You will also be warned against data loss before loading a new configuration and overwriting the current set of parameters. Confirm your intention to avoid unintentional loss of unsaved parameters.











Note

- The language change will not be executed until the application restart.

The Status line displays the following information, from the left: Connected to includes the name of the port to which you are currently connected corresponding with your PC COM port. FW version specifies the current **2N® Lift1** audio unit FW version and Serial number gives the **2N® Lift1** audio unit serial number. The logout button is situated in

the right-hand bottom corner. The other controls in the lower part may be different in different menus. Let us describe all the buttons that are available in the application.

Basic Controls

 New	<p>New helps you create a new table of parameters. The existing table will be replaced after a warning.</p>
 Open from a file	<p>Open from file helps you read the table of parameters from a disk file.</p>
 Save to a file	<p>Save to file helps you save the current table of parameters into a disk file.</p>
 Connect device	<p>Connect device switches the user into the Connect to device menu.</p>
 Back	<p>Back returns you to the offline configuration menu.</p>
 Connect	<p>Connect connects the user to the port with the programming add-on.</p>
 Read from device	<p>Read from device downloads the current settings.</p>
 Save to device	<p>Save to device helps you save new parameters into the memory.</p>
 Disconnect device	<p>Disconnect device helps you log out from a device.</p>
 Upgrade	<p>Upgrade starts FW uploading to 2N[®] Lift1.</p>

5.3 Use

Upon the application launch, you get to the Configuration main menu and then the Parameters / Basic menu, where you can find almost all the **2N[®] Lift1** settings. You are in the offline configuration, which you can modify, prepare for download to a **2N[®] Lift1** audio unit or save into a file for later download. The offline mode helps you view the settings. The user has only access to the Configuration menu. The other menus are meaningful only if the audio unit is connected. The meaning and description of the parameters and controls are the same as in the online mode (i.e. with the CU connected); see below for details. Follow the CU login instructions in Subs. 5.1. Now let us explain what the menus are used for.

Configuration

Parameters

Having logged in to the CU as described in the preceding subsection, you get into the Configuration main menu. The Parameters / Basic menu includes the table of all the **2N[®] Lift1** parameters including their codes. Refer to [Subs. 3.2.](#) for the list of parameters and their meanings. All the parameters are arranged in associated groups for convenience. Moreover, each table row is equipped with a hint, which describes the parameter purpose and setting options. The table includes the following items: Code matches the parameter number in the voice menu, Name displays the parameter name, Value shows the currently set parameter value and Unit specifies the parameter unit (if no unit is specified in this column, the value is just a number). Maximum and Minimum define the permitted range of the values to be set. Default value displays the factory value of the parameter, which also appears after the factory reset. Click this value to add it to the Value column.

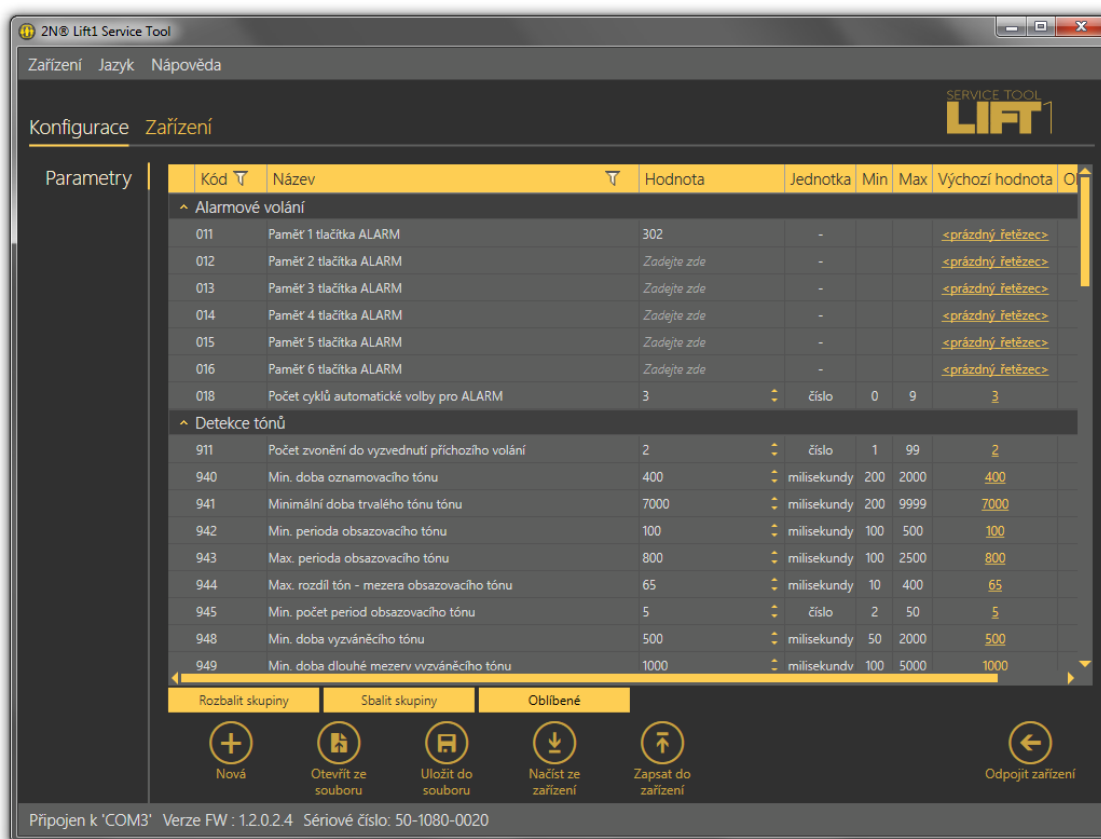


Figure: Configuration / Parameters Menu

The menu also includes the Expand groups / Collapse groups buttons for you to expand the sections and display all the required parameters quickly. Click the Favorites next to the Collapse groups button to display your favourite items in the table. Click on the empty star symbol behind a parameter in the Favorites column to select a new favourite item. Similarly, click on a filled-in star symbol to unselect a favourite item. Group expanding/collapsing and filtration are also useful for viewing favourite items. A yellow-to-orange colour change of the Favorites button means that the favourite items are only active. Click New set to overwrite the current settings with default values. Click Save to file to back up data into your PC disk. Push Open from file to read the back-up data. The Read from device button helps you read the current set of parameters from the CU. Finally, click Save to device to save the changes into the CU memory. Filtration is a convenient searching tool. Set the filter for each column separately and combine the filters to find the required data as quickly as possible. Click the funnel symbol in the selected column to activate the filter. Activation is indicated by a colour change of the funnel symbol; see the figure below.

Kód	Název	Hodn
^ Detekce tónů		
942	Min. perioda obsazovacího tónu	100
943	Max. perioda obsazovacího tónu	800
^ Kontrolní volání		
983	Perioda kontrolního volání	3

Figure: Left – Inactive Filter, Right – Active Filter

Each column with the funnel symbol includes own filter settings; see the figure below. The Contains function finds the searched string in all the column items and returns all the occurrences. Enter a text into the string field and click Filter to activate the filter and display all the searched items in the column. Use another filter in another column to make your search more precise and efficient. Having completed filtering, click Delete filter in the used columns or using the Alt+R keyboard shortcut to delete all the active filters. If you do not delete the setting, the filtration settings keep active even upon the **2N® Lift1** logout and you would obtain filtration results again instead of complete information in your next search.

Kód	Název	Hodnota	Jednotka	Min	Max	Výchozí hodnota	Oblí
^ Detekce tónů							
942	Min. perioda obsazovacího tónu	Obsahuje	Perioda			100	
943	Max. perioda obsazovacího tónu					800	
^ Kontrolní volání							
983	Perioda kontrolního volání	3	číslo	0	100	3	

Figure: Filtration Setting Result

Tip

- Use the context menu opened by clicking anywhere in the table or the **Alt+R** keyboard shortcut to delete the set filters.
- Each table row is equipped with a hint including parameter description for convenience.

Device

The Device menu provides information on the **2N® Lift1** audio unit connected: basic parameters and, last but not least, firmware, bootloader and voice menu upgrading options.

Info

The Info menu provides basic information on the state of the device connected: audio unit FW version and serial number. The Time in device parameter displays the current time read from the **2N® Lift1** audio unit. This parameter is not read online and has to be updated using the Read from device button. Set time in device helps you record a time setting of your own. Click on the calendar to set the date/time in hours manually. You can overwrite the setting and set a different time value for a different time zone. Click Confirm to confirm the new setting. Click Save current time from PC to device to synchronise the audio unit time with your PC time value and load the new setting into the audio unit automatically.

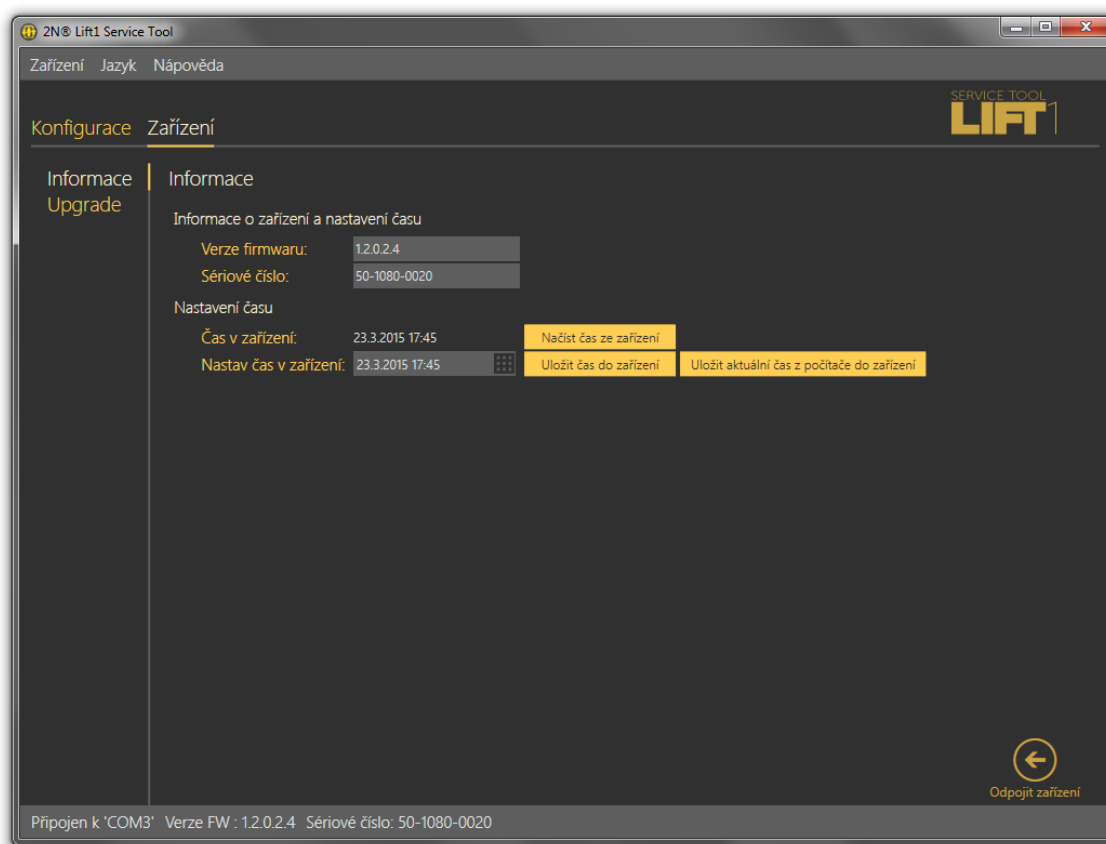


Figure: Device / Info Menu

Note

- As the **2N® Lift1** time is not backed up, the time setting will be lost in the case of power outage.

Upgrade

The Upgrade menu helps you upgrade the firmware, bootloader and voice menu. Select the file to be loaded in the File name section for the program to automatically read the type from the file header and display it as the file type: Firmware, Bootloader or Voice menu. Click Select to select a file and press Upgrade to make **2N® Lift1 Service Tool** upload the new Firmware, Bootloader or Voice menu version into the audio unit.

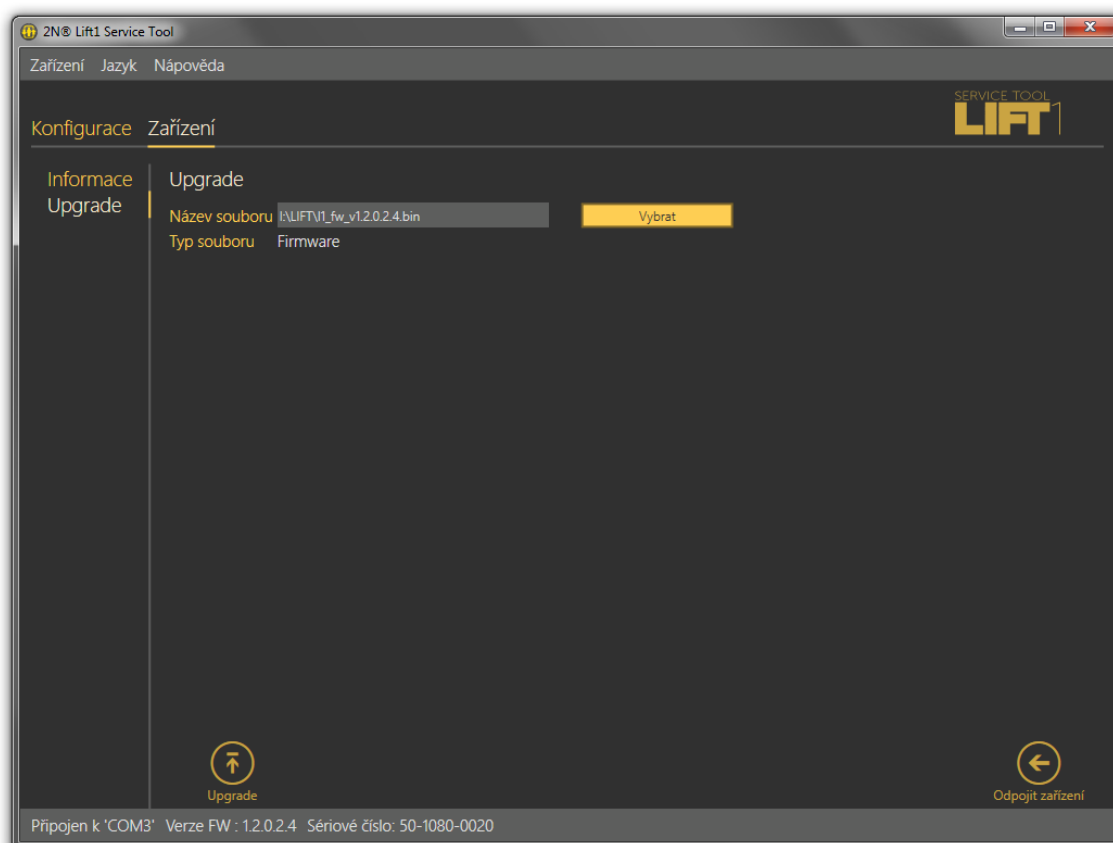


Figure: Device / Upgrade Menu

Caution

- After the firmware, bootloader or voice menu upgrade, the audio unit will be restarted automatically and the application will be disconnected. Reconnection will not be possible until the audio unit has executed upgrade and restart.

6. Technical Parameters

This section describes the technical parameters of the **2N® Lift1** product. Here is what you can find in this section:

- [6.1 Technical Parameters](#)

6.1 Technical Parameters

Electric Parameters

Parameter	Value	Conditions
Minimum line current	15 mA	off-hook
Minimum line voltage	22 V	on-hook
Off-hook DC voltage drop	< 9 V < 12 V	I = 20 mA I = 50 mA
On-hook resistance	>1 M Ω	U = 25..100 V
Off-hook impedance	220 Ω + 820 Ω paral. 115 nF	15 to 60 mA
Return loss	> 14 dB	15 to 60 mA
Bandwidth	300 to 3500 Hz	15 to 60 mA
Ringing impedance	> 2 k Ω C = 0.47 μ F	25 to 50 Hz
Ringing detector sensitivity	10 to 20 V	25 to 50 Hz
Pulse dialling	40 / 60 ms	
DTMF dialling level	-9.0 +2.0/-2.5 dB and -11.0 dB +2.5/-2.0 dB	15 to 60 mA
Overvoltage protection – between A, B	1000 V	8 / 20 μ s

Notes:

- 1) Any ringing course is accepted.

Switch Parameters

- **Minimum voltage:** 9 V AC / DC
- **Maximum voltage:** 24 V AC / DC
- **Maximum current:** 1 A AC / DC
- **Resistance – open:** min. 400 k Ω
- **Resistance – closed:** approx. 0.5 Ω
- **Fuse:** resettable

Connection of External Indicators

- **Supply voltage:** 12 – 24 V DC, external power supply
- **Maximum switched current:** 200 mA

Other Parameters

- **Universal model dimensions:** 65×130×24 mm
- **Compact model dimensions:** 100×185×16 mm
- **Working temperature range:** -20 to +70 °C

7. Supplementary Information

This section provides supplementary information on the **2N[®] Lift1** product. Here is what you can find in this section:

- [7.1 Troubleshooting](#)
- [7.2 List of Terms and Abbreviations](#)
- [7.3 Directives, Laws and Regulations](#)
- [7.4 General Instructions and Cautions](#)

7.1 Troubleshooting



Nejčastěji řešené problémy najdete na stránkách faq.2n.cz.

7.2 List of Terms and Abbreviations

- Incoming call – call in the control centre - **2N® Lift1** direction
- Outgoing call - call in the **2N® Lift1** - control centre direction
- Check(ing) call – automatically activated call in the **2N® Lift1** - control centre direction
- Control centre – workplace receiving alarm/check calls and failure reports. There can also be separate workplaces for various call types or just the staff mobile telephones.
- L8 – **2N® Lift8** system, the software can control the check/alarm calls and fully administer the **2N® Lift1** communicators and other similar devices if necessary
- PBX – private branch exchange (equipped with analogue local lines and, typically, PSTN connection)
- PSTN – public switched telephone network. It is considered for simplification that **2N® Lift1** is connected to the PSTN although it works along a PBX line in the same way.

7.3 Directives, Laws and Regulations

Europe

2N® Lift1 conforms to the following directives and regulations:

Directive 1999/5/EC of the European Parliament and of the Council, of 9 March 1999 – on radio equipment and telecommunications terminal equipment and the mutual recognition of their conformity

Directive 2006/95/EC of the European Parliament and of the Council of 12 December 2006 on the harmonisation of the laws of Member States relating to electrical equipment designed for use within certain voltage limits

Directive 2004/108/EC of the Council of 15 December 2004 on the harmonisation of the laws of Member States relating to electromagnetic compatibility

Commission Regulation (EC) No. 1275/2008, of 17 December 2008, implementing Directive 2005/32/EC of the European Parliament and of the Council with regard to ecodesign requirements for standby and off mode electric power consumption of electrical and electronic household and office equipment

Directive 2011/65/EU of the European Parliament and of the Council of 8 June 2011 on the restriction of the use of certain hazardous substances in electrical and electronic equipment

Regulation (EC) No. 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing a European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No. 793/93 and Commission Regulation (EC) No. 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC

Directive 2012/19/EC of the European Parliament and of the Council of 4 July 2012 on waste electrical and electronic equipment.

7.4 General Instructions and Cautions

Please read this User Manual carefully before using the product. Follow all instructions and recommendations included herein.

Any use of the product that is in contradiction with the instructions provided herein may result in malfunction, damage or destruction of the product.

The manufacturer shall not be liable and responsible for any damage incurred as a result of a use of the product other than that included herein, namely undue application and disobedience of the recommendations and warnings in contradiction herewith.

Any use or connection of the product other than those included herein shall be considered undue and the manufacturer shall not be liable for any consequences arisen as a result of such misconduct.

Moreover, the manufacturer shall not be liable for any damage or destruction of the product incurred as a result of misplacement, incompetent installation and/or undue operation and use of the product in contradiction herewith.

The manufacturer assumes no responsibility for any malfunction, damage or destruction of the product caused by incompetent replacement of parts or due to the use of reproduction parts or components.

The manufacturer shall not be liable and responsible for any loss or damage incurred as a result of a natural disaster or any other unfavourable natural condition.

The manufacturer shall not be held liable for any damage of the product arising during the shipping thereof.

The manufacturer shall not make any warrant with regard to data loss or damage.

The manufacturer shall not be liable and responsible for any direct or indirect damage incurred as a result of a use of the product in contradiction herewith or a failure of the product due to a use in contradiction herewith.

All applicable legal regulations concerning the product installation and use as well as provisions of technical standards on electric installations have to be obeyed. The manufacturer shall not be liable and responsible for damage or destruction of the product or damage incurred by the consumer in case the product is used and handled contrary to the said regulations and provisions.

The consumer shall, at its own expense, obtain software protection of the product. The manufacturer shall not be held liable and responsible for any damage incurred as a result of the use of deficient or substandard security software.

The consumer shall, without delay, change the access password for the product after installation. The manufacturer shall not be held liable or responsible for any damage incurred by the consumer in connection with the use of the original password.

The manufacturer also assumes no responsibility for additional costs incurred by the consumer as a result of making calls using a line with an increased tariff.

Electric Waste and Used Battery Pack Handling



Do not place used electric devices and battery packs into municipal waste containers. An undue disposal thereof might impair the environment!

Deliver your expired electric appliances and battery packs removed from them to dedicated dumpsites or containers or give them back to the dealer or manufacturer for environmental-friendly disposal. The dealer or manufacturer shall take the product back free of charge and without requiring another purchase. Make sure that the devices to be disposed of are complete.

Do not throw battery packs into fire. Battery packs may not be taken into parts or short-circuited either.

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