

## Technical parameters

### GSM interface

|                       |   |
|-----------------------|---|
| GSM module:           | MC55i-w   |
| GSM bandwidth:        | EGSM 850/ EGSM 900/ GSM 1800/ GSM 1900 MHz                                      |
| Transmission power:   | 2 W EGSM 850 / 900 MHz,<br>1W GSM 1800 / 1900 MHz                               |
| Receiver sensitivity: | -105 dBm  |
| Audio:                | Half rate, Full rate, Enhanced full rate<br>Echo cancellation, Echo suppression |
| Antenna:              | 850/ 900/ 1800/ 1900 MHz 50 $\Omega$<br>SMA antenna connector                   |
| SIM card              | 3V or 1,8V plug-in  |

### Audio interface

|               |                               |
|---------------|-------------------------------|
| Line output:  | jack 3,5mm, mono (unbalanced) |
| Output level: | 0 dBV                         |
| Impedance:    | 220 $\Omega$                  |

### Switching contact relay

|               |   |
|---------------|---|
| Function:     | Closed contact during a call  |
| Maximum load: | 500 mA / 125 VAC<br>300 mA / 110 VDC<br>2 A / 30 VDC<br>(applies for resistance load) |

### Power Supply

|   |  |
|---|--|
| Mains supply:   | Adapter 110-230 V/12 V, 1 A                        |
| DC power supply:  | 10 to 16 V DC                                      |
| 12V consumption   | Standby – 90 mA<br>Call – typ. 300 mA, max. 400 mA |
| Supply connector:   | DC Jack 5,5/2,1 mm, positive to center             |
| When other power source than supplied adapter is used, the power source must meet the criteria for SELV standard. |  |

### Battery backup

|  |   |
|--|---|
| Accumulator type:                      | Charging cell NiMh size AA                        |
| Number of pieces:                      | 4   |
| Power consumption from batteries:      | Standby - 230 mA<br>Call typ. 600 mA, max 1000 mA |
| Charging current:                      | Typ. 70 mA, regulated                             |
| Accumulators are not part of delivery. |   |

### Other parameters

|                        |                   |
|------------------------|-------------------|
| Dimensions:            | 163 x 157 x 38 mm |
| Operating temperature: | 0°C to 45°C       |

### EC Declaration of Conformity

Hereby, 2N TELEKOMUNIKACE a.s., declares that the 2N® Mobile Audio Gateway product is in compliance with the essential requirements and other relevant provisions of Directive 1999/5/EC. Refer to the CD-ROM or our website [www.2n.cz](http://www.2n.cz) for the Declaration of conformity.

# 2N® Mobile Audio Gateway



- Automatic GSM call answer
- Audio signal output to a connected device
- Ability to activate a connected device by switched contact
- Access to the system for announcements from any number
- Ability to manage access from selected numbers only

# 2N® Mobile Audio Gateway

## Basic Functions

- The 2N® Mobile Audio Gateway (hereinafter MAG) is designed to automatically answer a call from the GSM mobile network and transfer the caller's voice to audio output. It is designed to be connected to the input of a PA exchange or similar device intended for voice reproduction.
- The device is equipped with a switching contact relay for activation of the exchange during an ongoing call.

## 2N® Mobile Audio Gateway Installation and Connection

### • Proper location

Install MAG with respect to a good mobile network signal strength. Place MAG out of range of sensitive devices and human bodies for electromagnetic interference reasons. MAG is designed for indoor use. Do not place it near heat sources and on direct solar radiation. It may not be exposed to rain, flowing water and moisture, aggressive gas, solvents etc.

### • External Antenna Connection

Screw the antenna cord into the SMA antenna connector. Tighten the antenna connector gently with your hand, never use a wrench!

### • SIM card Installation

Slot for SIM card is placed on the connector panel. Make sure your SIM card is not PIN protected. Insert the SIM card to the slot according to the picture. If you wish to use PIN protection, enter the PIN code into MAG before the SIM is inserted. Use the configuration tool.

### • Connection of audio input to MAG

Audio signal output runs to a 3.5mm mono jack on the side of the antenna connector. You can use the supplied cable, fitted with jacks on both ends, to connect the input connector of the connected device. If the connected device is fitted with a different type of input connector, it is necessary to fit it with a suitable adaptor or other cable.

### • Connection of switching relay

To activate the connected device, you can use a switching contact relay run to a connector; the mate of this connector is supplied with the device. The relay is closed during an ongoing connection to the GSM network. The relay is used for signaling, and cannot be used for switching mains voltage! (see technical parameters)

### • Battery installation

Insert four pieces of rechargeable battery NiMH size AA into the covered compartment on the back side of the gateway. Refer to the symbols in the battery space for proper battery placement and polarity. Use mentioned type of batteries only!

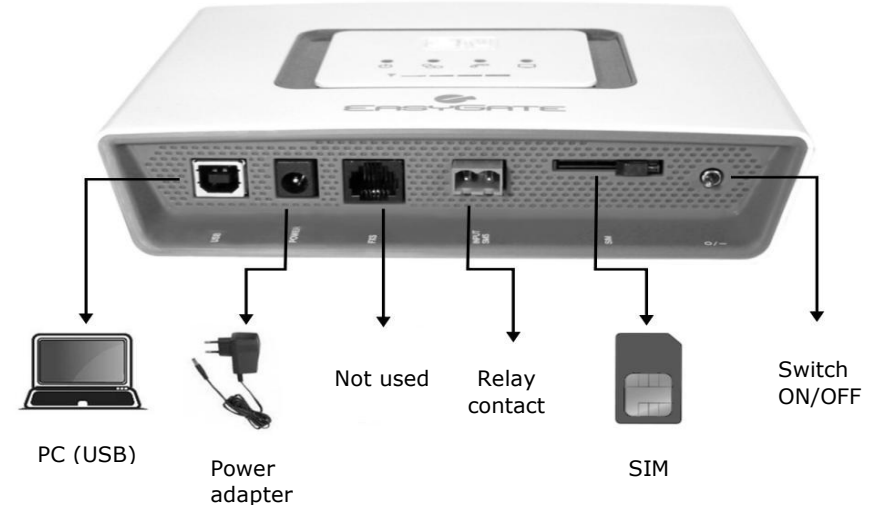
### Mains Supply Connection

MAG is 12V DC voltage powered. Connect the attached power adapter (12V/1A DC) to the power supply connector. After connection, switch on MAG with the power switch on the right hand side of connector panel.

### • MAG configuration

It is not necessary to configure the device for basic MAG operation. Configuration is necessary if a PIN code is used to protect the SIM card, or if you need to define the numbers from which it is possible to control the MAG and so on.

## 2N® Mobile Audio Gateway Connection Layout



## Indication LEDs

|                         |  |  |
|-------------------------|--|--|
| <b>Power supply</b>     |  | <b>Blue light</b> – mains supply<br><b>Yellow light</b> – battery supply           |
| <b>GSM Network</b>      |  | <b>Blue flashes</b> – logged out<br><b>Blue light</b> – logged in                  |
| <b>Audio connection</b> |  | <b>No light</b> – standby<br><b>Yellow light</b> – call in progress                |
| <b>PC connection</b>    |  | <b>Green light</b> – PC connection active<br>During configuration by USB interface |
| <b>Signal strength</b>  |  | <b>Signal strength indication</b><br>Four levels of signal displayed               |

## Use of the device

- When there is an incoming call, MAG automatically picks up the call and connects the audio output with the incoming GSM voice channel.
- It also closes relay contacts connected to the relay connector. This enables activation of the connected audio device and reproduction of the caller's voice.
- The state of the ongoing call is signalled by the LED Audio connection.
- At the end of the call by the caller, the MAG goes into standby mode.

## Configuration via USB

- The device is fully functional in the default configuration. If you don't need a special setting, it is not necessary to configure the device.
  - For configuration by PC, you must install the PCManager UNI program. Connect the MAG by USB cable to the PC.
  - After connection, a virtual series port is created (USB serial port, FTDI) through which the PCManager connects to the gateway.
  - When setting up PCManager, it is necessary to select the number of the virtual series port.
  - Using PCManager, you can:
    - Enter the PIN of the SIM card used (protection)
    - Permit calls from selected numbers only (GSM routing table)
    - Configure output volume (telephone line)
    - Configure parameters of GSM connection, especially roaming (GSM&SIM)
    - Upgrade firmware - only with special FW for MAG!
- Other parameters configurable via PCManager are intended for the GSM gateway. Do not change their setting.

**! Do not activate the power supply until the antenna is connected to EasyGate to avoid the GSM module damage.**

**Be careful when setting up roaming, which is permitted in the factory setting, and if the gateway operates in this mode, incoming calls will be billed at the relevant tariff!**