

User guide

MD PBX Light MD
MD PBX Light AV
MD PBX Light ES
MD PBX Light BG

Doorstation with telephone line
interface for the connection
to telephone systems
Version with 1 bell button



 **ROCOM**

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Description

The doorstation with telephone line interface **MD PBX Light** can be connected to standard analogue T/R extension lines of any PABX. The unit is delivered in four different versions: the BG version for installation behind existing panels, the MD version with a designer aluminium case, the AV version with a vandal proofed aluminum panel and the ES version with a stainless steel casing. All versions can have up to one bell chime button.

The connection of the doorstation to the telephone switch is done using two wires. Further a 12 Vac power supply is needed for the door opener and the illumination lamp in the doorstation. For this another two wires are necessary. We suggest in any case to provide an illumination of the doorstation as the lamps heat will ensure that the condensing water formation and a too low operating temperature can be prevented. Please take care that in some extrem enviroment situations the unit might need an add on heating element. The device is deliverd with microphone and loudspeaker. The volume of the loudspeaker and the microphone can be regulated.

The unit is activated using a bell button. Herefore a galvanic, powerless contact is needed. **Please take care that the activation LED will be lit only when the device is busy.** After the closing of the button contact the device will size the line, the red LED will be lit, and the programmed telephone number is dialed using the selected mode: rotary dial or DTMF. The telephone numer is programmed using the four jumpers groups J7 to J10. A one to four digits long telephone number can be programmed. With the jumper group J7 the frist dialed digit is programmed, with the group J10 the last one. If no jumpers are set in a group, no digit will be dialed for that position. The single digits are programmes using a BCD code. The digits 0 to 9 and the special DTMF code *,#,A,B,C can be programmed.

If needed the **MD PBX Light** doorstation with telephone line interface can also be called. As soon as the first call signal is recognized the unit will answer the call. In this case the device will work in the same way as if somebody had activated the bell button. The dialled DTMF number is used as acknowledgment tone that a connection to the doorstation is active. We suggest that also if only a calling function has to be provided (i.e. if normal chime bells are used instead to dial an extension), a number is programmed in any case, to ensure the described feature. The automatic call answer function can be deactivated by cutting the R15 resistance on the device board.

During the connection using a DTMF dial pad telephone a door opener contact

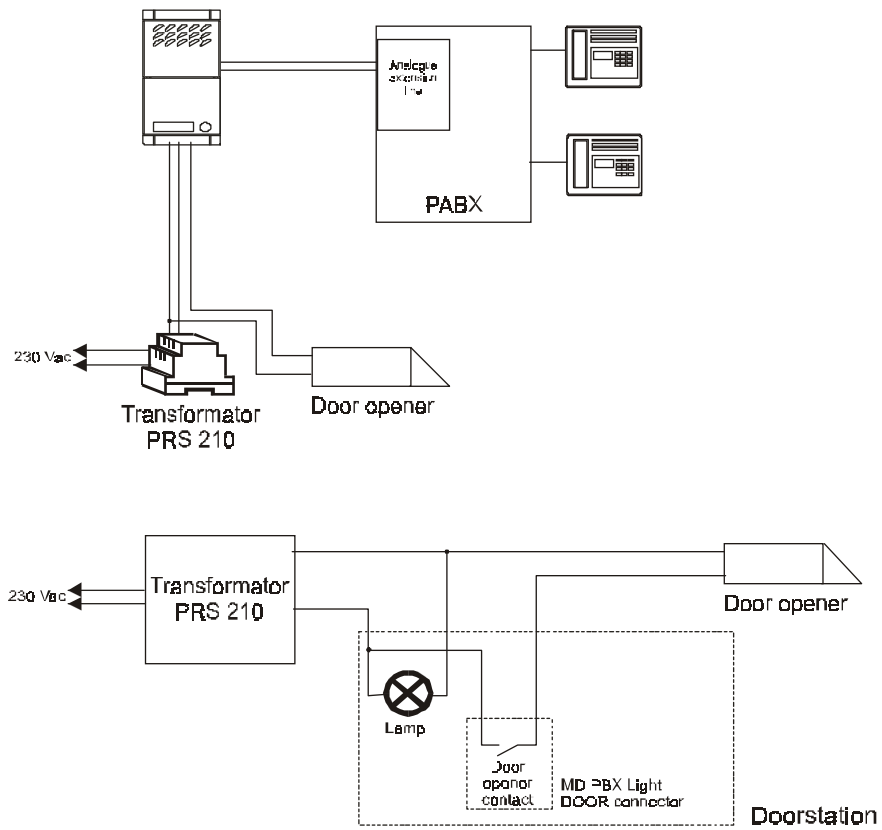
can be activated dialing the "7". The door opener contact is activated as long as the **MD PBX Light** detects the DTMF signal. If only one burst is detected the door opener will be activated for 4 seconds.

The connection will be terminated as soon as a busy tone is surley detected. The **MD PBX Light** can be released also dialing the DTMF digit "3" during the connection. If the called party doesn't answer the unit will drop the connection after 7 ringback tones. For the enhanced security the unit has also a hardware timer. This will ensure that the connection is terminated in any case after the time out. The time out can be set to 1, 2 or 4 minutes using jumper which can be find inside the unit.

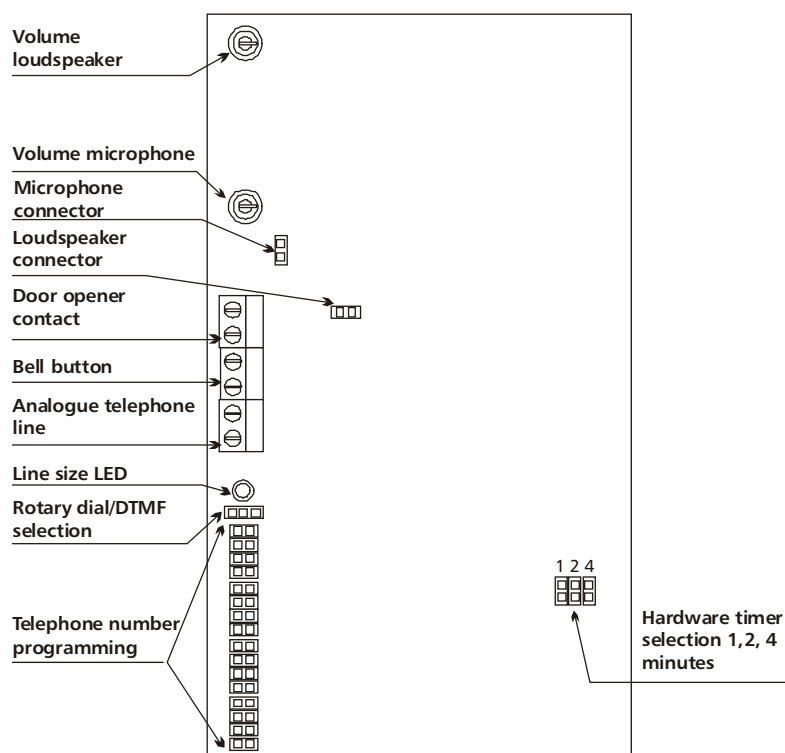
Features

- 1 to 4 digit long number dial
- High quality handsfree speach controlled unit
- Tone detection
- Automatic call answer
- Volume regulation for loudspeaker and microphone
- With DTMF dial controlled door opener contact
- Connection to any PABX T/R analogue extension line
- DTMF or rotary dial selectable
- Programmable time out timer

Connection diagram



View of the MD PBX Light electronic board



Installation

Depending on the delivered version install the **MD PBX Light** doorstation as required. With flush mounting versions the front plate and the installed electronic board should be take off during the installation operations of the box. For the MD Version also for the wall mounting version the front plate and the installed electronic board should be dismantled for the installing operations. With the AV and ES version you can separate the complete unit with front panel, back box and electronic board from the wall mounting case. In this case you don't need to dismount the electronic board. With the AV verion with flush mounting installation do not forget to apply the delivered fitting strip to the front panel.

With the BG version for installation behind existing panels install the electronic board in his case or letter box. **Please take care that a too large distance between board and microphone can reduce the voice quality of the unit.** The bell button contact has to be connected powerless. With the installation of the loudspeaker and the microphone please take care that enough acoustic separation between the two items is granted. Especially the backward generated sound waves from the loudspeaker should not get outside the case or reach the microphone. If the delivered installation holders for microphone and loudspeaker are used, this should not be a problem.

If possible use different cables to connect the telephone line and the AC power supply for the lamp and door opener. This will reduce the possibility to have "humming" noises on the connection. After the installation and cabling using the in this documentation provided connection diagram, the number to be dialled has to be programmed. This is done by setting the appropriate jumpers. The dialed number can be 1 to 4 digit long. The jumper setting can be seen on the following table. The first digit is defined by the first group of four jumpers. The number is programmed using a BCD hex code, where the lowest digit (2^o) is the first jumper on the right of each group of four. The number "0" is set as the hex code "A" (decimal 10). Digits which are not used are to be set empty (no jumpers). After the programming of the telephone number you should select the appropriate dial mode for your PABX (default is DTMF). The unit is now ready to work. You should set up a connection with the door unit. A regulation of the sending and receiving volume may be necessary. To do this you should use the regulators placed on the **MD PBX Light** doorstation. Please take care to regulate VERY carefully. If this is done by two people this might be helpful. **If the loudspeaker send only "broken" tones, or it has a too low volume, changing the volume of the microphone on the MD PBX Light may help. With a very loud external environment the unit may have difficulties detecting the busy tone.** This may happen also with tones which are not within the values as indicated in the technical specification at the end of this document. In this case you should use always the dial of the digit "3" to terminate the connection.

Please note that only one door opener with 40 Vpp and 2 A can be connected to the unit. If you need to drive more door openers or if you need a higher voltage or current you should use a relay. We suggest the use of the ACI Farfisa relays 1471.

Furthermore please consider this for the installation:

- If you are using digital sets or featurphones on your PABX please take care that these are enabled to send DTMF tones also after an incoming call. You need this to open the door.

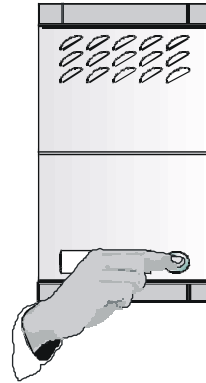
Telephone number programming

	J7 (X000)				J8 (0X00)				J9 (00X0)				J10 (000X)			
1				X				X				X				X
2			X				X				X				X	
3			X	X			X	X			X	X			X	X
4		X				X				X				X		
5		X		X		X		X		X		X		X		X
6		X	X			X	X			X	X			X	X	
7		X	X	X		X	X	X		X	X	X		X	X	X
8	X				X				X				X			
9	X			X	X			X	X			X	X			X
0	X		X		X		X		X		X		X		X	
*	X		X	X	X		X	X	X		X	X	X		X	X
#	X	X			X	X			X	X			X	X		
A	X	X		X	X	X		X	X	X		X	X	X		X
B	X	X	X		X	X	X		X	X	X		X	X	X	
C	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

How to use

Call from outside

- The visitor presses the **bell button**
- The line is seized and the programmed number is dialed



- The extension is called
- On the doorspeaker the visitor can hear a **ringback tone**
- If you are busy or you can't answer within seven calls the line will be automatically dropped
- As soon as you answer the call you can talk to the visitor at the door



- At the end of the conversation **press** the key **7** to open the door. The opener will be activated for 4 seconds. If you need more time press more times the key 7. To terminate the call press the key **3**.

OR

- **Press** the key **3** to terminate the call without opening the door
- **Hang up** the handset

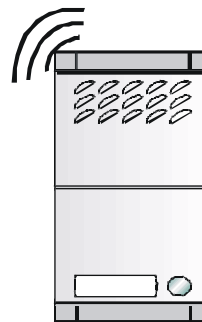


Call from inside

- You want to call the doorstation without a call being set from outside
- Lift the handset and **dial the telephone number of the doorstation**



- The doorstation is called and will answer the call automatically
- The doorspeaker is activated and you **can talk to the visitor**



- At the end of the conversation **press the key 7** to open the door. The opener will be activated for 4 seconds. If you need more time press more times the key 7. To terminate the call press the key 3.

OR

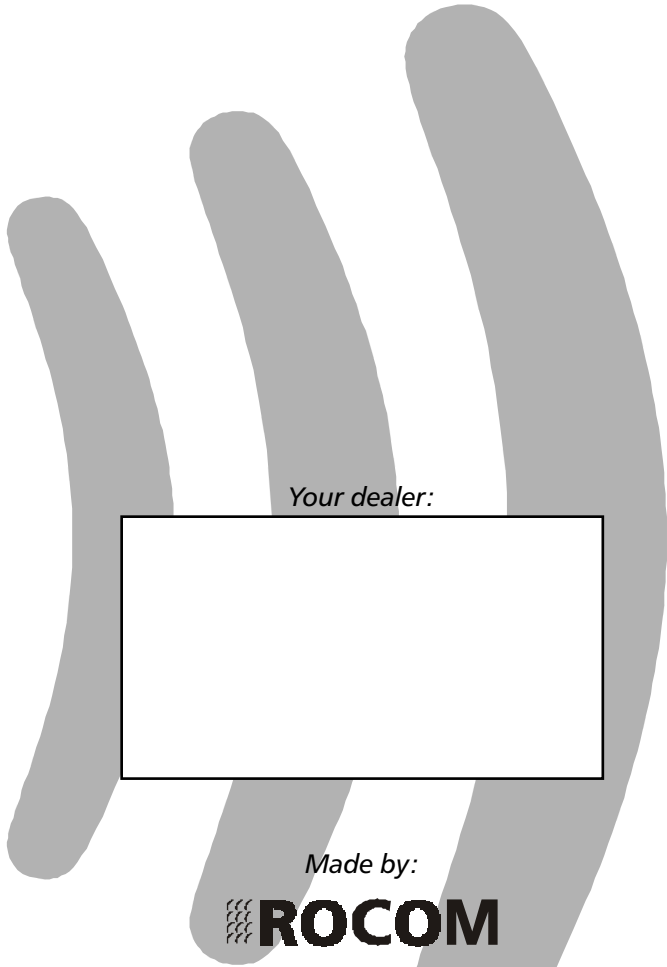
- **Press the key 3** to terminate the call without opening the door
- **Hang up** the handset



Technical data

Power supply	from telephone line
Telephone line voltage	min. 24 Vdc, max. 60 Vdc
Voltage insertion drop on T/R	10 V +/- 5% at 25 mA
Current consumption	off hook: min. 18 mA stand-by: 2 μ A
Telephone line impedance	600 Ohm
Dial mode	rotary dial, DTMF selectable
Rotary dial	impulse frequency: 10 Hz dial pause: 820 ms impulse duration: 60 ms impulse pause: 40 ms open line resistance: > 300 KOhm
DTMF dial	standard DTMF Tone duration: 70 ms Tone pause: 70 ms
Tone recognition	detectable tone frequency: 390 to 480 Hz detectable ringback tone: tone duration from 770 to 1100 ms. Release after 7/8 tones detectable long busy tone: tone duration from 170 to 550 ms. Release after 5/6 tones detectable short busy tone: tone duration from 70 to 150 ms. Release after 10/11 tones
Door opener	DTMF digit "7" Min. detectable DTMF tone duration: 45 to 50 ms Max. contact load: 40 Vpp, 2 A Closure duration: 4,5 seconds (or as long as a DTMF 7 digit is detected)
Time out	1, 2 or 4 minutes selectable
Environmental temperature	0° to 45° C
EMC	EN 60555-2 EN 55022 EN 50082-1 EN 60950
Security	EN 60950
Dimensions	MD PBX Light MD Frontplate: 124 x 213 x 19 Installation box: 124 x 213 x 55 Wall mounting case: 151 x 232 x 80 MD PBX Light AV Frontplate: 100 x 247 x 4 Installation box: 90 x 236 x 55 Wall mounting case: 105 x 257 x 62 MD PBX Light ES Frontplate: 123 x 215 x 14 Installation box: 115 x 207 x 45 Wall mounting case: 142 x 232 x 90 MD PBX Light BG Electronic board: 82 x 150 x 25 Loudspeaker holder: 75 x 75 x 28

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Your dealer:

Made by:

 **ROCOM**

Energie- und Kommunikationssysteme GmbH
Lessing Str. 20, 63110 Rodgau, Germany
Tel. +49-6106-6600-0 Fax +49-6106-6600-66
E-Mail: rocom_gmbH@t-online.de
www.rocom-gmbh.de
