Digital Door phone
DD-5100

DIGITALAS

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Chapter 1. About DD-5100 door phone

DD-5100 is a cutting edge nowadays door phone of a high protection level and a modern design, intended for blocks of flats and could be used in an unfriendly environmental conditions.

Door phone is created, considering the cutting edge technical solutions. Outdoor station panel, system controller, commutator and other parts are integrated in one unit of a door phone, so less material is used for mounting the system and more time is saved.

2 mm stainless steel outdoor station panel of a new design contains a bright and resistant to external influence and kicks of vandals, LED display. A outdoor station panel of small dimensions (width – 120 mm, height – 206 mm) could be easy mounted even in narrow areas (options: inserted panel or mounted above the plaster). Keyboard light switches on automatically only in dark period, so more electricity is saved. A new generation keyboard of a door phone is resistant to kicking. Similar keyboards are used in cash points with buttons, able to withstand more than a million pressings.

There is a possibility to reduce system sound signals to the minimum (a high level of sound usually annoys residents of the first floor), when keeping the same conversation sound.

Comfortable handsets suit for a modern interior. Due to mounted plug-switch a call sound could be switched off at nights. Entrance doors could be opened using an individual 4-digits door unlock code, presented to each flat. Residents could independently program or change door unlock codes and extra Tags; an operation lasts only 2-3 minutes.

1.1. General features of the DD5100 Digital Door phone

- Possibility to connect up to 255 users
- Duplex audio connection
- Two-Wire connection line
- TM Tags reader *
- RFID Tags reader *
- Internal memory of 1376 Tags
- Individual door unlock code
- Possibility to turn-off door unlock codes
- Possibility to add six Service Tags **
- The doors could be opened: by entering the door unlock code, using TM or RFID Tags, by pressing door unlock button, or during conversation with a guest by pressing unlock button on the handset
- Operating temperature -40 C° to +85 C°
- Small dimensions – 120x260x30 mm
- All system is supplied by a sole power supply 12V
- Low energy consumption. Duty mode with keyboard light – 12VDC, 85 mA + electric flow of electric lock
- Error indication
- Digital volume control of loudspeaker, microphone and the system sound separately
- Possibility to disable separate users or disable door unlock function
- Three types of addressing: regular, shifted and hotel
- A bright 4-digits LED display
- Keyboard with buttons, able to withstand more than a million pressings
- Possibility to install a video camera
- Options: inserted panel or mounted above the plaster
- Audible and visual indication
- Automatic lightening of a keyboard during a dark period
- Possibility to connect several systems to a network
- Protection of Service PIN (SPIN) code
- Protection from an electroshock
- Unlimited amount of Tags, related to one User's ID
- Comfortable and easy system programming
- Possibility to program/change door lock codes by the User interface
- Possibility to program TM/RFID Tags by the User interface

* DD-5100T – door phone with TM Tag reader, DD-5100R – door phone with TM and RFID Tag readers
** Service Tags are used in order to simplify system servicing (Page 13. Activation of Programming mode)

1.2. Dimensions

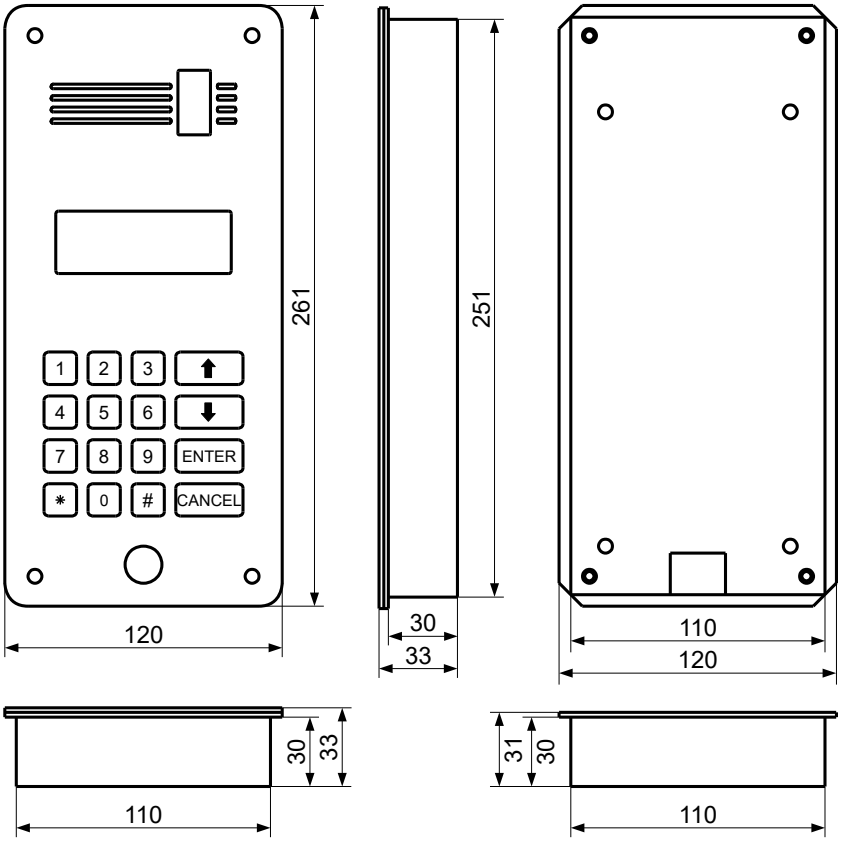

Fig. 1: Dimensions of DD-5100 door phone

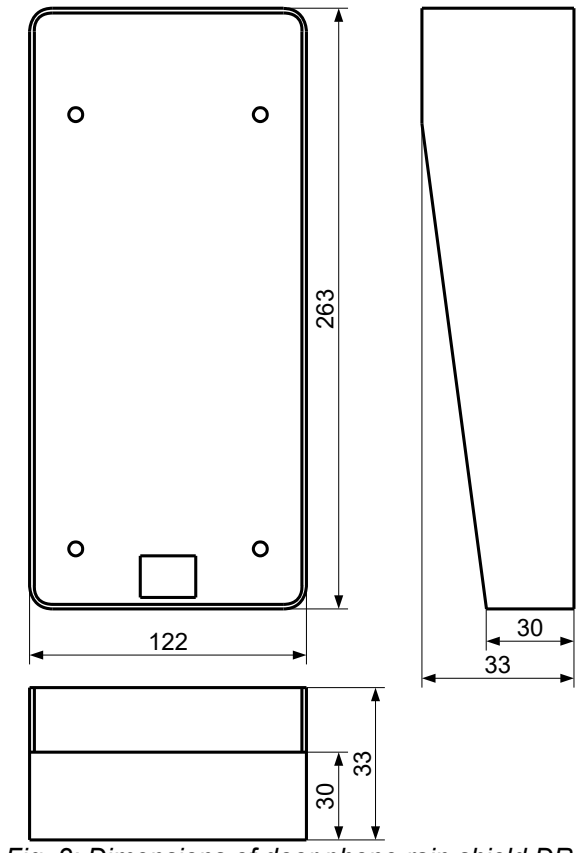

Fig. 2: Dimensions of door phone rain shield DR-1

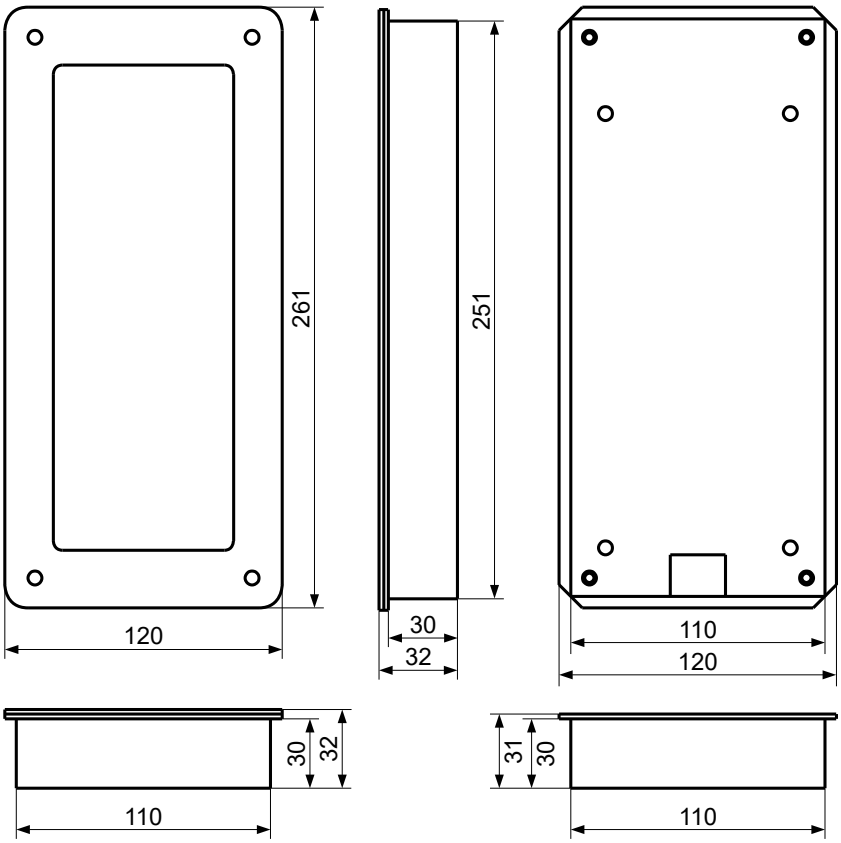

Fig. 3: Dimensions of Name frame NF-1

Chapter 2. Components of the System

Call module of a door phone DD-5100

Call module is the main unit of a door phone system with a loudspeaker, microphone and a 4-digits LED display, also anti vandalism keyboard, and electronic Tag readers**.** Possibility to install a video camera.

DD-5100T – call module with TM Tag reader

DD-5100R – call module with TM and distant RFID Tags reader

Door phone rain shield DR-1

Door phone rain shield is needed in order to arrange a door phone DD-5100 in the easiest way, avoiding insert into a plaster. Rain shield protects an appliance of direct rain and other environmental factors.

Name frame NF-1

Name frame NF-1 allows to write surnames of residents, titles of companies, to introduce advertisement texts etc. NF-1 is made of stainless steel panel, double organic glass mount with lightening and paper for printing your information. Surname frame matches design and dimensions of DD-5100, so could be mounted together.

Power supply

12 VDC 1.5 a stabilized power supply for the whole door phone system

Electronic lock

DD-5100 call module could manage two types of electric locks (electric opener and electromagnetic lock), managed by a permanent 12V flow. A nominal flow for electric lock must not exceed 0.8A. Lock type and locking delay time are set by the program.

Door unlock button

Door unlock button used for unlocking the door, when leaving the object. In this case any standard button with normally opened contacts is used.

Audio handsets

DD-5100 door phone could be connected with DG-H1 and DG-H2 type receivers, installed to all subscribers in order to talk to a guest, calling from the outside call module. After the conversation one has a possibility to unlock the door, pressing a button on a conversation appliance. DG-H1 contains another extra button, used for unlocking of the second entrance door or corridor door. Sound of receiver's signal could be switched off by the switch, mounted on a conversation appliance.

Video/audio adaptor ADV 100

ADV 100 allows to connect analogous video/audio devices.

Network connection adaptor DD-S2.1

In order to connect two or more call modules to a network, DD-S2.1 adaptor could be used. Three call modules could be connected using one adaptor. In order to connect more modules with one adaptor, cascade DD-S2.1

Chapter 3. Connection of DD-5100 door phone

3.1. A standard wiring diagram

For basic usage of DD5100 doorphone, only connections made to right connector (see Fig. 4) are mandatory. A minimal standard DD-5100 door phone completion involves:

- Door phone module DD-5100
- Stabilized power supply (12V, 1.5 A)
- Electronic lock
- Door unlock button
- Door phone handsets.

Left connector is dedicated for camera or external RFID reader.
Requirements for wire diameters are given in table 1.

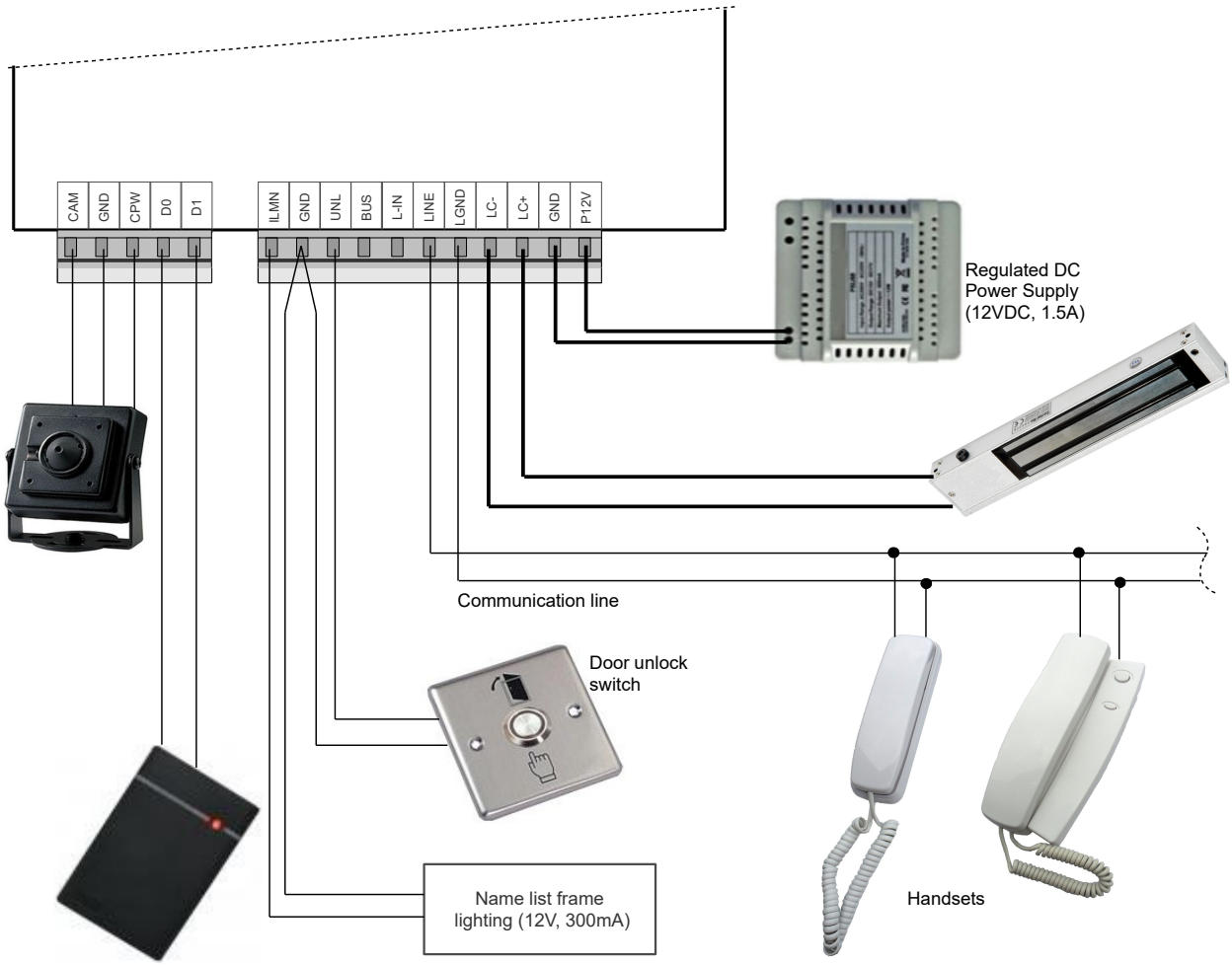

Fig. 4: DD5100 digital doorphone wiring diagram

Main contacts (mandatory connections, needed for basic doorphone operation):

GND, LGND – ground contact.
P12V – power supply positive contact,
UNL – contact of inner door opening switch,
LINE – positive line contact (line connects all handsets to doorphone),
LC- – negative contact of electric lock or electromagnet,
LC+ – positive contact of electric lock or electromagnet. By default doorphone drives electromagnet. To drive electric lock, appropriate settings should be done in doorphone settings menu, please refer to menu section 3.2 on page 17.

Additional contacts (used to implement specific features):

D0, D1 – contacts for „Wiegand“ protocol based RFID reader data lines. **RFID reader works only with special software equipped DD5100** (if during boot R0T0, R1T1 or R1T2 appears on screen, Your DD5100

supports RFID reader),

GND – ground contact for camera,

CAM – contact to connect video signal cable (wire of camera's video signal needs to be soldered to soldering area near CAM contact),

CPW – positive power supply contact for camera module – during conversation through this contact doorphone supplies power to camera.

Table 1: Electric installation wire upon the length

Wire*/length	Up to 20 meters	Up to 100 meters	Up to 200 meters
Handset connection line wire		D=0,5mm / S=0,2mm^2	2 x D=0,5mm / S=0,4mm^2
System power supply wire	S=1mm^2	–	–
Electric lock wire	S=0,5mm^2	–	–
Door unlock button wire	S=0,5mm^2	–	–

*Use a copper wire for installation

3.2. Video camera wiring diagram

There is a possibility to mount a video camera to a door phone module. See fig. 5 for video camera wiring diagram. Pay attention, a contact “CAM” is not connected to a door phone circuit, as it is intended for commutation. GND – ground contact, CPW – video camera power supply contact, 12 V voltage appears when calling and during conversation session.

In order to ensure quality of image, use a coaxial wire for transfer of video signal.

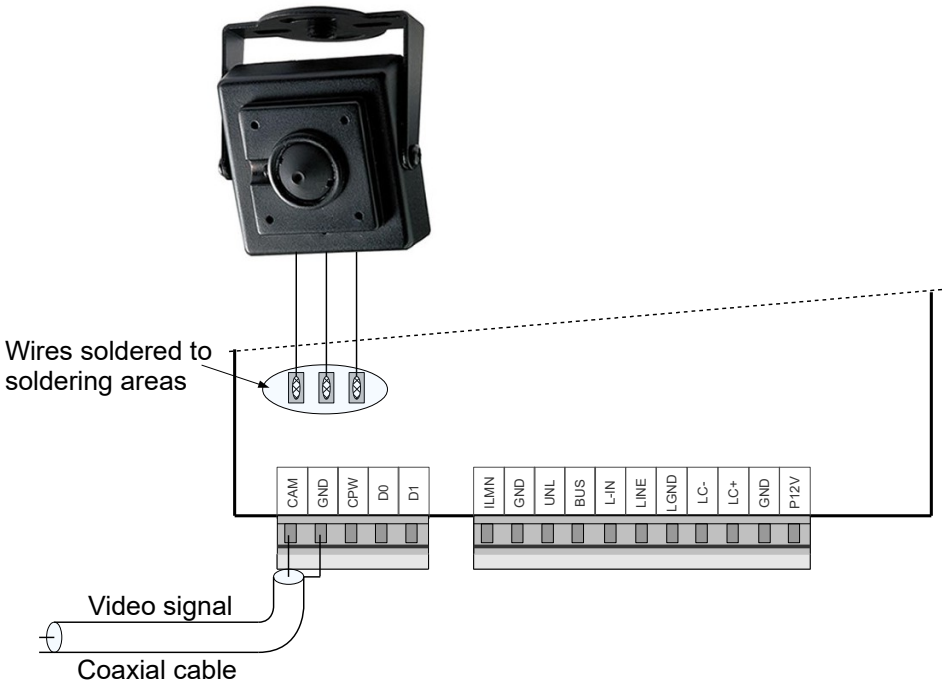

Fig. 5: Video camera wiring diagram

3.3. Door phone connection to the network

A network connection is needed in case a room (residential house or office) has several entrances. In this case a door phone module DD-5100 is mounted for each entrance. Several configurations are possible.

If only two doorphones in a network are needed, simplest solution is connect two DD-5100 as shown in fig. Klaida: nuorodos šaltinis nerastas. In this configuration one DD-5100 doorphone needs to be configured as L type, and NET1 configuration selected, other DD-5100 should be configured as H type with NET1 configuration selected. Please refer to Chapter 5 “*Doorphone net types and configuration“* for more info. n this configuration user sees video only from that doorphone, which is connected with his/her monitor. For example first DD-5100, configured as

H type and NET1 configuration selected, is mounted at the gates of closed yard, second DD-5100, configured as L type and NET1 configuration selected, is mounted at the entry to stairway. Guest, using H type DD-5100 at the gates, can call to any Flat thru L type DD-5100, but only audio conversation is possible. See Klaida: nuorodos šaltinis nerastas "*Klaida: nuorodos šaltinis nerastas"* for how to use DD-5100 in NET1 configuration. Although video conversation is possible from DD-5100 at the entry to stairway (L type configured DD-5100). If video conversation from both DD-5100 is needed, it is recommended to connected doorphones in a NET through DDSV1 module as shown in fig. 6. In this case network configuration should be disabled in DD-5100 settings. Although video line from two doorphones in NET1 configuration (fig. Klaida: nuorodos šaltinis nerastas) could be connected to audio / video line in parallel, but for long video cables video performance could suffer.

If more than two doorphones needs to be connected to a network, one DD-5100, configured as H type and either NET2 or NET3 configuration selected, and as many as 9999 DD-5100's, configured as L type doorphones with NET2 or NET3 configuration selected, could be used as shown in fig. Klaida: nuorodos šaltinis nerastas. In fig. Klaida: nuorodos šaltinis nerastas shown wiring diagram has drawback - user in a flat can't see guest at H type doorphone. To overcome this drawback it is recommended to connect several DD-5100's in network through DDSV1 commutators as shown in fig. 7. In this setup, any network configuration for all DD-5100's should be turned off in settings menu. In wiring diagram in fig. 10 is depicted network implementation for object, which includes gates of the closed yard and three entrances at the stairways.

In case more than two H type DD-5100's needs to be connected to network, H type DD-5100's should be connected through network module DD-S2.1, as shown in fig. Klaida: nuorodos šaltinis nerastas. If several DD-5100's should share the same audio line, network commutator DD-S2.1 or DDSV1 (for audio / video line) could be used, as shown in fig. 6. This is useful when one building has several entries. Commutator itself could be connected to H type DD-5100 as one of L types.

Example 1: there is a yard with three houses, each of them has two entrances. The yard has gates. Video conversation should be possible from DD-5100 at the gates and DD-5100 at any of the entrances, to any flat of corresponding house.

Solution: replace all L type DD-5100's in fig. 8 (with all devices connected to audio / video line, electric lock etc.), with complete schematic of fig. 9. Then one of the two L type DD-5100's should be connected to H type DD-5100 in parallel (Line of H type DD-5100 should be connected to L-IN of one of the two L type DD-5100's). Now each house has two DD-5100's which share one audio / video line. One L type DD-5100 for each house (total three) are connected to H type DD-5100 at the gates. Configure one DD-5100, at the gates, as H type NET2 or NET3 and three DD-5100's, at the entrances, as L type NET2 or NET3, see chapter Chapter 5. "*Doorphone net types and configuration"* for more info. Network configuration for remaining three DD-5100's should be disabled.

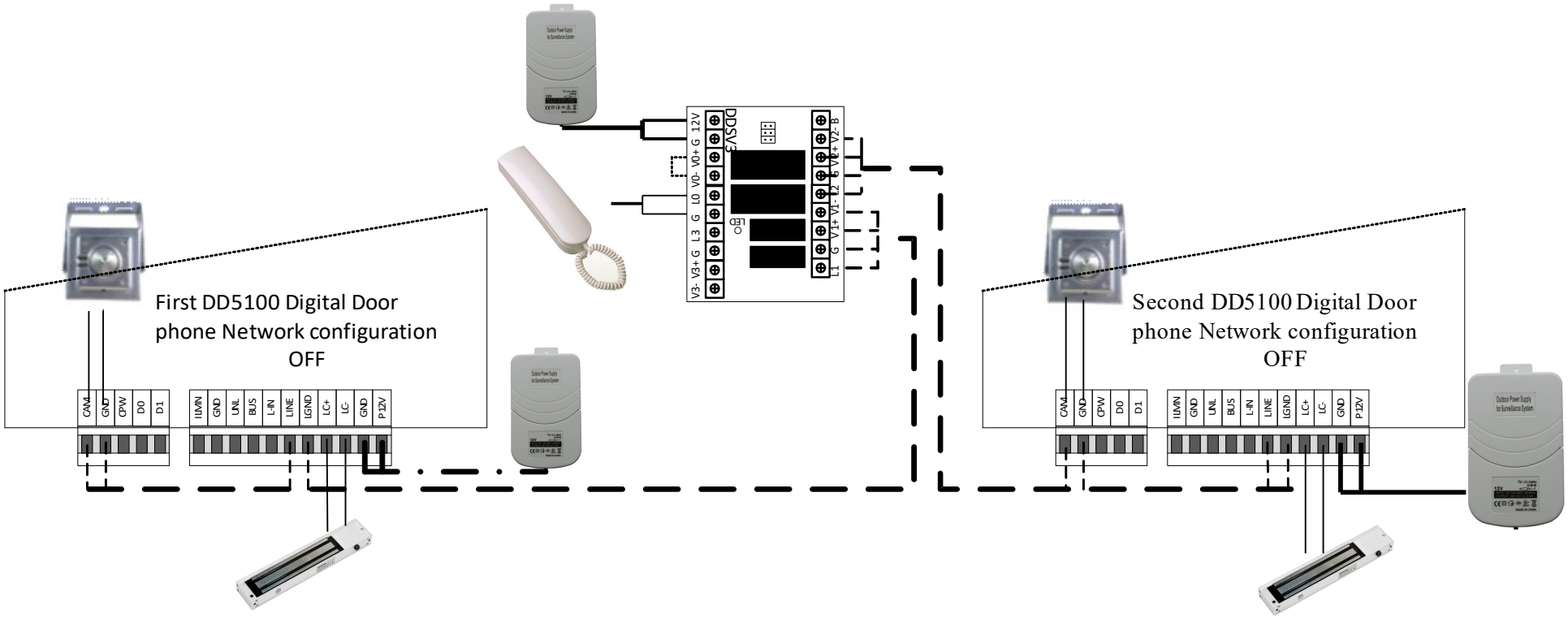

Fig. 6: Wiring diagram for up to three DD-5100 call modules with video interconnection, NET configuration disabled

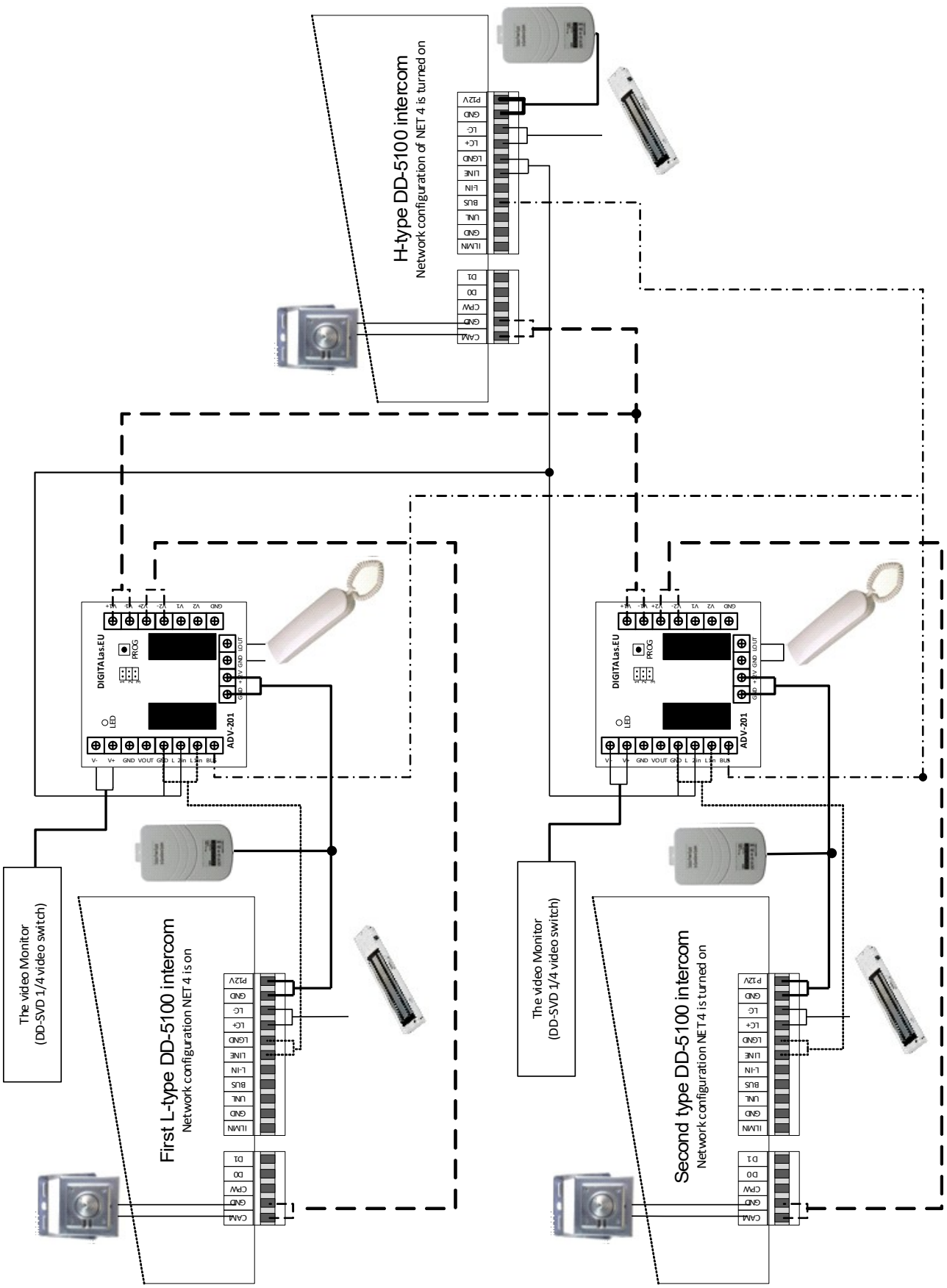

Fig. 8 Connectivity of three interconnects to address with address.

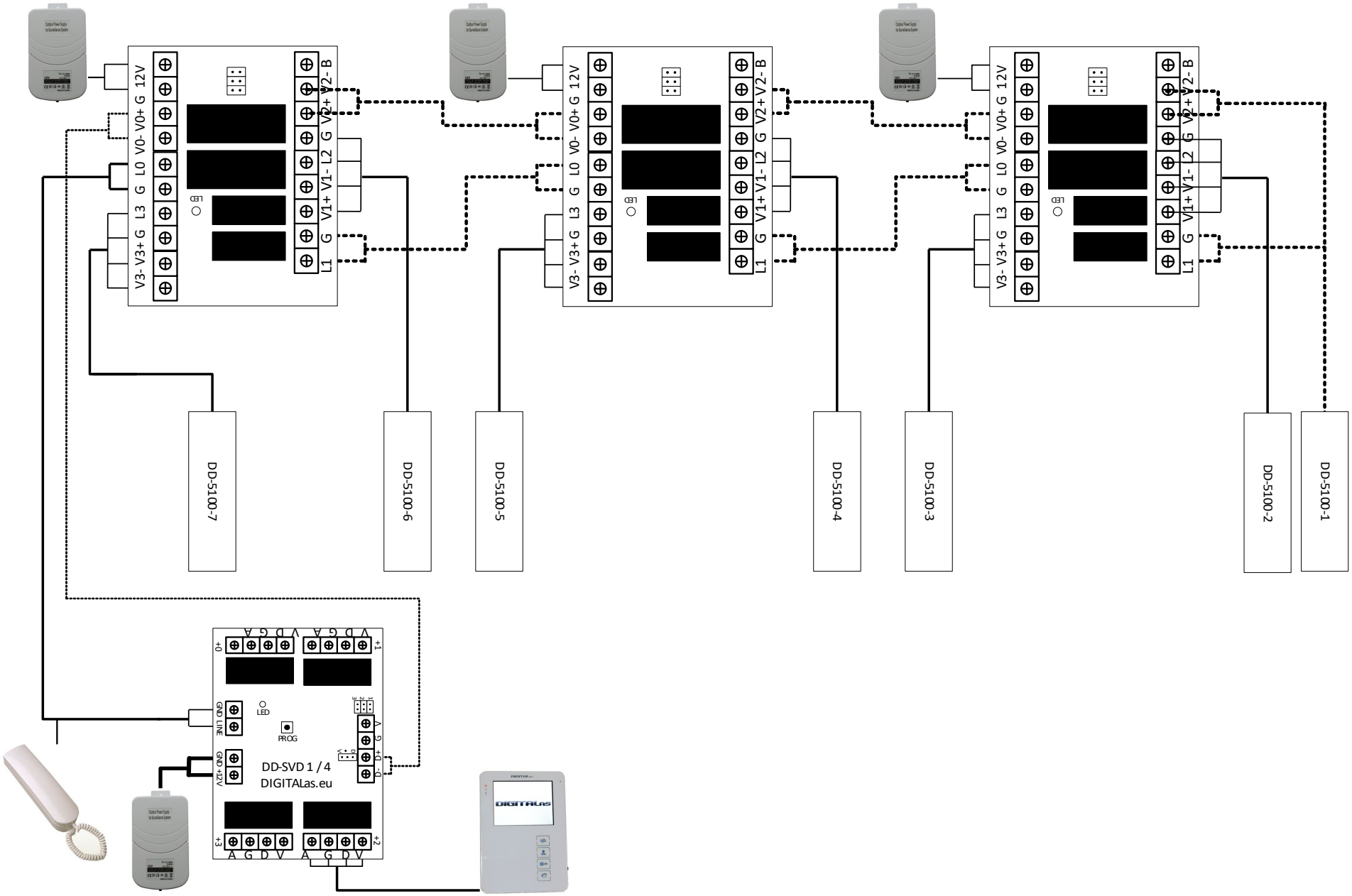

Fig. 7: Wiring diagram for one master and three slave DD-5100 call modules with video switching, NET configuration disabled

Chapter 4. Programming menu description

4.1. Activation of programming mode:

A new door phone outdoor station module does not contain *Service PIN – SPIN code* programmed in advance, so during the first programming procedure the System will ask to enter the mentioned code.

During the first programming procedure enter *1002#. A note “SET PIN” and four horizontal dashes will appear. Enter your secret SPIN code of 4 digits.

NOTE: don't lose SPIN code, otherwise it will be forbidden to make any programming actions; the code could be renewed only at manufacturers’ or representatives’ service.

For programming mode activation enter *1002# and enter SPIN code.

If you enter a wrong SPIN code, try one more time. If you enter wrong SPIN code 3 times a programming mode will be blocked for 5 minutes.

Programming mode could be activated using Service Tag.

For programming mode activation enter *1002# and attach Service Tag to the reader. After activation of programming mode, browse the MENU by using (↓) (↑) (ENTER) (CANCEL) buttons.

Button (ENTER) used for approving, button (CANCEL) - for canceling operation or return back for one step.

Leaving programming mode:

The System will return to the duty mode automatically after 20 seconds from the latest action. Also you can leave programming mode by pressing “Cancel”.

4.2. Programming menu overview

Below is given quick programming menu overview. Fig. 8 shows menu structure.

Programming >>	1. Tag >>	1. U.Add	
		2. S.Add	
		3. C.Add	
		4. Auto Add >>	1. on
			2. off
		5. Del >>	1. One
			2. Group
			3. S.One
			4.C.One
			5. All
	2. Code >>	1. U.Pin	
		2. S.Pin	
		3. C.Pin	
		4. rESEt-ALL	
	3. Settings >>	1. Lc.Delay	
		2. Lc.Type >>	1. Nc
			2. No
		3. Acc.Type >>	1. Code >>	1. Dis
				2. En
			2. T.Tag >>	1. Dis
				2. En
			3. R.Tag >>	1. Dis
				2. En
		4. Err.Unl. >>	1. Set
			2. off
		5.CS.no	
		6.UnL.beep	1.on
			2.oFF
		Chip.set	1.on
			2.oFF
	4. Vol >>	1. User	
		2. Guest	
		3. Syst.	
	5. User >>	1. Disable >>	1. One
			2. Group
			UcLc
		2. Enable >>	1. One
			2. Group
			UcLc
	6. Addressing >>	1. Regular	
		2. Shifted	
		3. Hotel >>	1. Add Int
			2. Start

Fig. 8: Structure of programming menu

1.	Tag >>		Action with Tags
	1. U.Add		Add User Tag [TM/RFID], (1-1376) U.Tags. 1. ID=0 – U.Tags not related to users ID 2. ID=(1-255) – U.Tags related to users ID [visual] and {audio} notifications: [n.-] - Next U.Tag number in the memory [done] {pyyp} – U.Tag is saved {pyp pyp} – U.Tag is already in the memory [full] {pyp pyp} – Memory is full (1376 U.Tags is saved to the memory)
	2. S.Add		Add System Tag [TM/RFID], (1-6) S.Tags. [visual] and {audio} notifications: [S.-] - Next S.Tag number in the memory [done] {pyyp} – S.Tag is saved {pyp pyp} – S.Tag is already in the memory [full] {pyp pyp} – Memory is full (6 S.Tags is saved to the memory)
	3. C.Add		Add Common Tag [TM/RFID], (1-16) C.Tags. [visual] and {audio} notifications: [C.-] - Next C.Tag number in the memory [done] {pyyp} – C.Tag is saved {pyp pyp} – C.Tag is already in the memory [full] {pyp pyp} – Memory is full (16 C.Tags is saved to the memory)
	3. AutoAdd		Auto Add User Tags. On – Function is ON Off – Function is OFF When this function is ON, all new User Tags will unlock the door, and will be saved to the memory.
	4.	**Del >>**	**Delete Tag**
		1. One	Delete one User Tag: 1. Enter U.Tag number (1-1376) and press Enter. 2. Or add U.Tag to the reader [visual] and {audio} notifications: [done] {pyyp} – U.Tag is deleted [Err] {pyp pyp} – Incorrect U.Tag number (n=0 or n>1376)
		2. Group	Delete all User Tags related to one User ID(1-255): [visual] and {audio} notifications: [done] {pyyp} – U.Tags are deleted [Err] {pyp pyp} – Incorrect Users ID (ID=0 or ID>255) [n.xxx] – shows how many U.Tags were deleted
		3. S.One	Delete System Tag by its number (1-6). [visual] and {audio} notifications: [done] {pyyp} – S.Tags are deleted [Err] {pyp pyp} – Incorrect S.Tag number (S=0 or S>6)
		4. C.One	Delete Common Tag by its number (1-6). [visual] and {audio} notifications: [done] {pyyp} – C.Tags are deleted [Err] {pyp pyp} – Incorrect C.Tag number (C=0 or C>16)
		4. All	Delete All Tags (U.Tag + S.Tag +C.Tag= 1382 Tags): [visual] and {audio} notifications: [done] {pyyp} – U.Tags+S.Tags+C.Tags are deleted [n.xxx] – shows how many Tags were deleted

2.	Code >>	Action with PIN Codes
	1. U.Pin	Add or Delete User PIN code related to Users ID (1-255): To delete U.PIN code, enter User ID and enter U.PIN=0000 [visual] and {audio} notifications: [done] {pyyp} – U.PIN is saved [Err] {pyp pyp} – Incorrect User ID (ID=0 or ID>255)
	2. S.Pin	Change System PIN code: [visual] and {audio} notifications: [done] {pyyp} – S.PIN is saved
	3. C.Pin	Change Common PIN code: [visual] and {audio} notifications: [done] {pyyp} – C.PIN is saved
	4.rESEt-ALL	Delete All PIN codes except S.Pin [visual] and {audio} notifications: [done] {pyyp} – all Pin deleted

3.	Settings >>		Main System Settings
	1. Lc.Delay		Lock delay time (1-99 sec.): [visual] and {audio} notifications: [done] {pyyp} – Setting is saved [Err] {pyp pyp} – Wrong time value (=0 or >99)
	2. Lc.Type >>		Lock Type: 1. nc – Normal closed circuit (electromagnet) 2. no – Normal open circuit (electric bolt) [visual] and {audio} notifications: [done] {pyyp} – Setting is saved
	3.	**Acc.Type >>**	**Type of Access Control**
		1. Code >>	Access to unlock door by using User PIN code: 1. dis – Access is disabled 2. en – Access is enabled [visual] and {audio} notifications: [done] {pyyp} – Setting is saved
		2. t.tag >>	Access to unlock door by using TM Tag: 1. dis – Access is disabled 2. en – Access is enabled [visual] and {audio} notifications: [done] {pyyp} – Setting is saved
		3. r.tag >>	Access to unlock door by using RFID Tag: 1. dis – Access is disabled 2. en – Access is enabled [visual] and {audio} notifications: [done] {pyyp} – Setting is saved
	4.	**Err.Unl >>**	**Door unlock timer in case error**
		1. Set	Set door unlock timer (in case error) interval (1 – 60 min): [visual] and {audio} notifications: [done] {pyyp} – Setting is saved

			[Err] {pyp pyp} – Wrong time value (=0 or >60)
		2. Off	Turn off door unlock timer (in case error): [visual] and {audio} notifications: [done] {pyyp} – Timer is turned off
	5	**CS.no**	**call signal number (1-15)**
	6	**UnL.beep**	**Unlock Signal in handset ON / OFF**
		1.On	**Unlock Signal in handset on** [visual] and {audio} notifications: [done] {pyyp} – **Signal ON**
		2. OFF	**Unlock Signal in handset OFF** [visual] and {audio} notifications: [done] {pyyp} – Signal OFF
	7	**Chip.set**	**CPW ON/OFF**
		1.On	**CPW ON** [visual] and {audio} notifications: [done] {pyyp} – CPW ON
		2. OFF	**CPW OFF** [visual] and {audio} notifications: [done] {pyyp} – CPW OFF

4.	**Vol >>**	**Volume settings**
	1. User	Users (indoor handset) device speaker volume (1-9). Factory value – 5. [visual] and {audio} notifications: [done] {pyyp} – Setting is saved
	2. Guest	Guest (outdoor station) device speaker volume (1-9). Factory value – 5. [visual] and {audio} notifications: [done] {pyyp} – Setting is saved
	3. Syst.	System signals volume (1-9). Factory value – 5. [visual] and {audio} notifications: [done] {pyyp} – Setting is saved

5.	**User**		**User administration**
	1.	**Disable >>**	**Disable User ID**
		1. One	Disable one User ID [visual] and {audio} notifications: [done] {pyyp} – User ID is disabled [Err] {pyp pyp} – Incorrect User ID (ID=0 or ID>255)
		2. Group	Disable group of Users ID [visual] and {audio} notifications: [done] {pyyp} – Group of User ID is disabled [Err] {pyp pyp} – Incorrect User ID (IDF=0, IDL=0; IDF>255, IDL>255; IDF>IDL)
		3.UnLc	Disables the option to open the door from the apartment [visual] and {audio} notifications:

			[done] {pyyp} – Setting is saved [Err] (pyp pyp) – Incorrect User ID
	2.	**Enable >>**	**Enable User ID**
		1. One	Enable one User ID [visual] and {audio} notifications: [done] {pyyp} – User ID is enabled [Err] {pyp pyp} – Incorrect User ID (ID=0 or ID>255)
		2. Group	Enable group of Users ID [visual] and {audio} notifications: [done] {pyyp} – Group of User ID is enabled [Err] {pyp pyp} – Incorrect User ID (IDF=0, IDL=0; IDF>255, IDL>255; IDF>IDL)
		3.UnLc	Enables the option to open the door from the apartment [visual] and {audio} notifications: [done] {pyyp} – Setting is saved [Err] (pyp pyp) – Incorrect User ID

6.	**Addressing >>**	**Addressing mode settings**
	1. Regular	Regular addressing mode (0<ID<256). [visual] and {audio} notifications: [done] {pyyp} – Setting is saved
	2. Shifted	Shifted addressing mode. Min shift=1. Max shift=9744. [visual] and {audio} notifications: [done] {pyyp} – Setting is saved [Err] {pyp pyp} – Incorrect shift (sh=0 or sh>9744)

The context of this menu depends on configuration (state)				
Default configuration, or when network or all settings has been reset				
7.	**Net >>**			**Network settings**
	1.	**Set >>**		**Enable Net configuration**
		1. nt1		First type network configuration. Please refer to Chapter 3 for more info.
			1. H-Set	„H“ type doorphone ID setting (min HID=1, max HID=255) [donE] (pyyp) – HID address successfully saved [Err] (pyp pyp) – wrong ID typed (0<HID<256)
			2. L-Set	„L“ type doorphone ID setting (min LID=1, max LID=9999) [donE] (pyyp) – LID address successfully saved [Err] (pyp pyp) – wrong ID typed (0<LID<10000)
		2. nt2		Second type network configuration
			1. H-Set	„H“ type doorphone ID setting (same as in nt1)
			2. L-Set	„L“ type doorphone ID setting (same as in nt1)
		3. nt3		Third type network configuration
			1. H-Set	„H“ type doorphone ID setting (same as in nt1)
			2. L-Set	„L“ type doorphone ID setting (same as in nt1)
		4. nt4		Fourth type network configuration
			1. H-Set	„H“ type doorphone ID setting (same as in nt1)
			2. L-Set	„L“ type doorphone ID setting (same as in nt1)

	2.	**rst.net**	Net configuration settings are reset to default values (Net function will be turned off). [donE] (pyyp) – default values was set. Default values are shown in Table 1.
Menu structure if H setting was already set in any net type			
7.	**Net >>**	**Network configuration settings**	**(„H“ type doorphone)**
	1.	**Add-L**	Add new „L“ type doorphone to network (min LID=1, max LID=9999) [donE] (pyyp) – entered correct LID [Err] (pyp pyp) – wrong ID entered (0<LID<10000)
	2017-10-02	**Edit-H**	Edit „H“ type doorphone ID number. [donE] (pyyp) – operation successful
	3.	**rst.net**	Reset Net settings (all Net settings are set to default values). [donE] (pyyp) – default values was set. Default values are shown in Table 1.
Menu structure if L setting was already set in any net type			
7.	**Net >>**	**Network configuration settings**	**(„L“ type doorphone)**
	1.	**Edit-L**	Edit „L“ type doorphone ID number. [donE] (pyyp) – operation successful
	2.	**rst.net**	Reset Net settings (all Net settings are set to default values). [donE] (pyyp) – default values was set. Default values are shown in Table 1.

8.	**F.reset >>**		**Reset factory settings**
	1.	Prog.	Reset settings to the factory values (see table). After reset system will restart
	2.	All	Reset settings to the factory values (see table) and delete memory (all Tags). After reset system will restart

Table 2: Programming settings/functions and factory values

Menu	Setting/function	Description	Factory value
1.Tag	1.3. AutoAdd	Auto add User Tags	**2. off**
2. Code	2.1. U.pin	User PIN codes	**No codes assigned**
	2.2. S.pin	System PIN code	**No SPIN assigned**
3. Settings	3.1. Lc.delay	Lock delay time	**5 sec.**
	3.2. Lc.type	Lock type	**1. nc**
	3.3. Acc.type	Access control type	**1. code – enabled** **2. t.tag – enabled** **3. r.tag – enabled**
4. Vol.	4.1. User	User conversation volume	**5 (1-9)**
	4.2. Guest	Guest conversation volume	**5 (1-9)**
	4.3. Syst.	System signal volume	**5 (1-9)**
5. User		User administration	**All ID enabled**
6. Addressing		Addressing mode	**Regular (1-255)**
7. Net		Net configuration	**off**

4.3. DD-5100 programming manual

Programming mode consists of 8 main MENU items. For programming mode menu structure see fig. 9. Menu items are placed in the order that the most frequently used settings could be reached the first. (e.g. add / delete Tags).

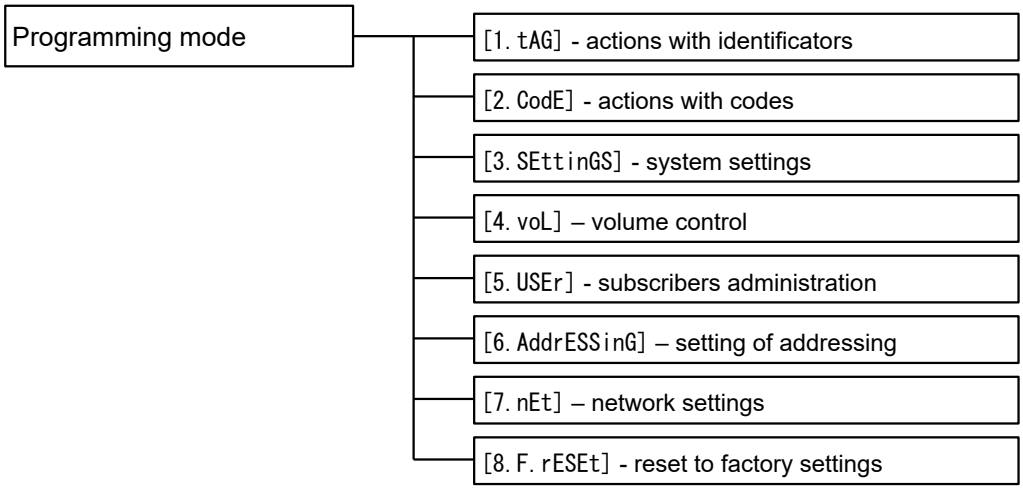

Fig. 9: Menu structural scheme of actions with identificators

4.3.1. Actions with identificators

Choose this item and perform all actions, related to identificators (TM and RFID), easily, to record or delete it. See the structural scheme of actions with identificators (fig. 10).

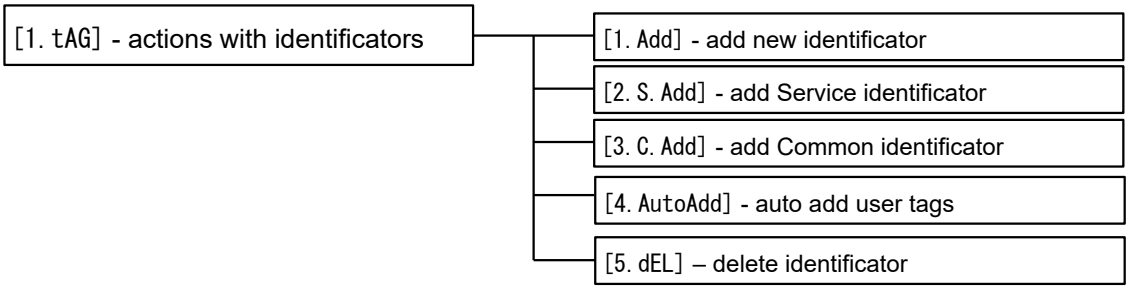

Fig. 10: Menu structural scheme of actions with identificators

Add a new identificators

There are two ways of adding a new key to door phone memory: 1) to record an indentificator without relation to any user; 2) to add a key, related to a user upon ID number (flat number).

Generally when entering an identificator to memory, choose from menu [1. tAG] > [1. Add] and enter ID number, related to the key. One ID number could be related to 1376 keys (capacity of memory). In case you don't want to relate an identificator with a subscriber, simply do not enter any ID (or enter ID=0). See an example of adding new identificators, related to flat No.15 (ID=15):

[1. tAG] > ENTER > [1. Add] > ENTER > [Id-] > (enter ID=15) > ENTER > [n (x)] > (add new Tags one by one)

[n (x)] shows saved identificator's rank number in door phone memory. It will serve in case you need to delete unnecessary or missed identificators from the memory.

Add Service identificators

Service identificator is an auxiliary measure, assisting to provide door phone maintenance. six keys of such type could be entered to door phone memory. Service identificator could be used for door unlock equally to traditional keys. However, this key activates programming mode without SPIN code.

For recording Service identificator to memory choose [1. tAG] > [1. S. Add] from menu and attach a new key to reader.

[1. tAG] > ENTER > [2. S. Add] > ENTER > [S- (x)] > (add new keys one by one)

[S- (x)] shows recorded identificator's rank number in door phone memory."S" means, that this key is Service identificator.

ADD Common identificators

Common identificators is a special key the most commonly used in networked versions to open all doors in sistem . Sixteen key of such type could be entered to door phone memory.

For recording Common identificator to memory choose [1. tAG] > [3. C. Add] from menu and attach a new key to reader.

[1. tAG] > ENTER > [3. C. Add] > ENTER > [C- (x)] > (add new keys one by one)

[C- (x)] shows recorded identificator's rank number in door phone memory."C" means, that this key is Common identificator.

Auto Add function

Auto add function enables to easily add user tags for themselves. If this function is enabled, when tag is placed, it immediately is written to memory and doors opens. ID number will be shown on the screen, when new tag is placed. Next time the tag is placed, tag ID will be shown on the screen and doors will open. When all tags was read, auto add function must be disabled. Auto add function is very useful in situation when DD-5100 configuration was lost or doorphone was damaged – users can add their keys without installer help (after repair work).

To on auto add function do the following:

[1. tAG] > ENTER > [3. AutoAdd] > ENTER > [1. on] > ENTER > donE.

To off auto add function do the following:

[1. tAG] > ENTER > [3. AutoAdd] > ENTER > [1. oFF] > ENTER > donE.

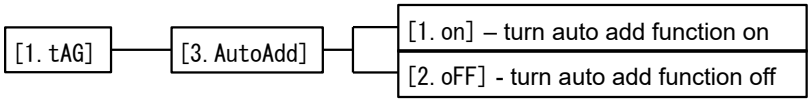

Fig. 11: AutoAdd submenu structure

Delete identificator

Delete submenu structure is shown in fig. 12.

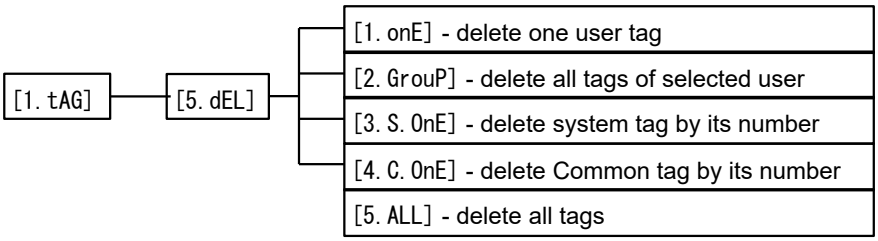

Fig. 12: Delete submenu structure

Delete identificator, related to sequence number

Identificator's sequence number is set in door phone memory automatically after adding new one. This number is shown on a display, each time when door is unlocked using an appropriate identificator. This number helps to delete a wished key (lost, defected) from door phone memory. See an example of deleting identificator with a rank number n=23

[1. tAG] > ENTER > [5. dEL] > ENTER > [1. onE] > ENTER > [Id-] > (enter no.=23) > ENTER > [donE] – identificator deleted

Delete identificator, related to user ID

One ID could be related to several identificators. This function helps to delete it together at once. See an example of deleting identificators , related to ID=34

[1. tAG] > ENTER > [5. dEL] > ENTER > [2. GrouP] > ENTER > [Id-] > (enter ID=34) > ENTER > [n. 34] >

[donE] – all identificators, related to a subscriber from a flat No. 34 (ID=34)

Delete all identificators from the memory

For deleting all identificators (including Service identificators) from the memory perform the operation, defined below:

[1. tAG] > ENTER > [5. dEL] > ENTER > [5. ALL] > ENTER >[dEL?] > ENTER > [donE] – all identificators are deleted

Delete system identificator, related to sequence number

Similar to user tags, system tags has it's own sequence numbers from range [1-6]. For example to delete last sixth system tag, do the following:

[1. tAG] > ENTER > [4. dEL] > ENTER > [3. S. onE] > ENTER > [S. -] > (enter no.=6) > ENTER > [donE] – identificator deleted

Delete common identificator, related to sequence number

Similar to user tags, Common tags has it's own sequence numbers from range [1-16]. For example to delete last sixth system tag, do the following:

[1. tAG] > ENTER > [5. dEL] > ENTER > [3. C. onE] > ENTER > [C. -] > (enter no.=16) > ENTER > [donE] – identificator deleted

4.3.2. Actions with codes

Door phone DD-5100 does not contain door unlock codes generated and entered to memory in advance. Each user has a possibility to create and change his door unlock code, using user's programming link (See User's Manual. Page 25). No one, including system installing personnel, does not know a code in advance, which helps to increase a level of system safety. However, upon a necessity, system adjuster or administrator has a possibility to deliver, change or delete System user's or Service codes. See fig. 13 for "Actions with codes" menu item structure:

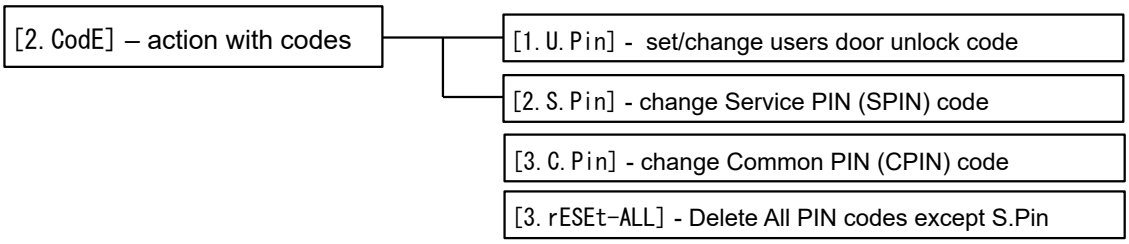

Fig. 13: Structural scheme of code programming menu

Set/change users door unlock code

System administrator can enter a new or change an old user's door unlock code. Administrator's rights allow to change the mentioned code even without a previous one. Delivery of a new code and change or an old one are performed according to similar procedure: enter an appropriate subscriber's ID and enter a new code. See an example of changing door unlock code for a flat No. 56:

[2. CodE] > ENTER > [1. U. Pin] > ENTER > [Id-] > (enter ID=56) > ENTER > [_ _ _ _] > (set new code) > ENTER > [donE] – door unlock code for a flat No. 56 is entered/changed

Change Service PIN (SPIN) code

SPIN code allows to enter a system programming mode and is delivered one time when activating this mode. SPIN code could be changed using programming menu:

[2. CodE] > ENTER > [2. S. Pin] > ENTER > [_ _ _ _] > (enter new SPIN code) > ENTER > [donE] – SPIN code is changed

Delete All PIN codes except S.Pin

This function allows you to delete all entered user and the administrator PIN code.

[2. CodE] > ENTER > [3. rESEt-ALL] > ENTER > [rSt?] > ENTER > [donE]

4.3.3. System settings

This menu item allows to arrange the main system settings: to change unlock delay time, lock type, access control type and number of calling signals (See fig. 15).

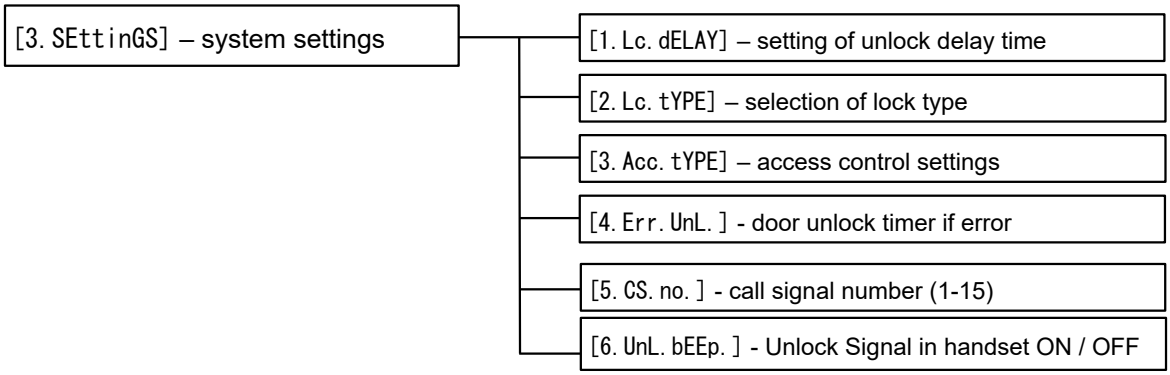

Fig. 14: Structure of System settings

Setting of unlock delay time

System applies 5 sec unlock delay time by default. Upon a necessity this time could be prolonged or reduced (1 sec – 100 sec). Pay attention that too long delay time could damage some type of electronic bolt openers. See an example of setting 10 sec delay time:

[3. SEttinGS] > ENTER > [1. Lc. dELAY] > ENTER > [t-] > (enter t=10) > ENTER > [donE] – setting 10 sec delay time

Selection of a lock type

Door phone DD-5100 allows to manage locks of two types (Fig. 15): 1. NC – locks, connected to normally closed circuit, i.e. locks with a permanent power supply, paused only when unlocking (electromagnetic lock); 2. NO - locks, connected to normally opened circuit, i.e. power supply is used only when unlocking (electric bolt).

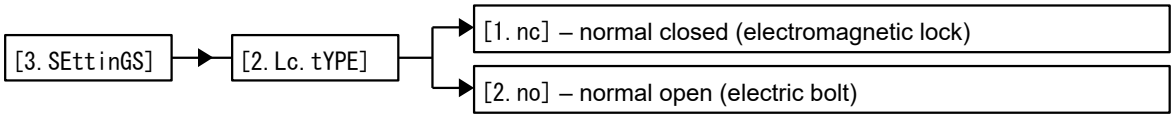

Fig. 15: Settings of lock type

The first type - NC (electromagnetic lock) is set by default. For changing of the setting choose an appropriate lock type (1.NC or 2.NO). See an example, how to set an outlet of lock management for bolt type lock.

[3. SEttinGS] > ENTER > [1. Lc. tYPE] > ENTER > [2. no] > ENTER > [donE]

Access control settings

Access control settings allow to limit ways of external door unlock. All access control types are allowed by default (fig. 16), i.e. using TM/RFID identificator or entering door unlock code. However, external door unlock could be forbidden totally upon a necessity. Doors could be opened only by an internal unlock button or during conversation with a guest, using audio receiver. You could set one entrance control type or combine several ones.

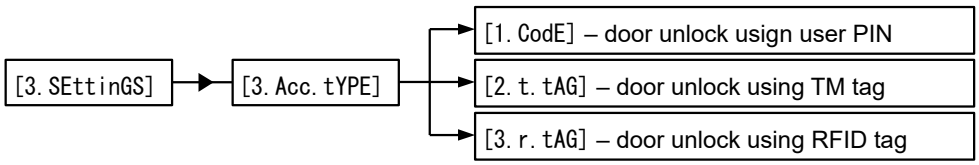

Fig. 16: Entrance control types

In order to ensure safety, residents often want to refuse using codes that could be learned by friends of residents or the third parties. In this case set an access control type, allowing to unlock doors externally only using TM/RFID identificator. For system configuration perform the following:

1) disable access using code:

[3. SEttinGS] > ENTER > [3. Acc. tYPE] > ENTER > [1. CodE] > ENTER > [1. diS] > ENTER > [donE]

2) enable access using code:

[3. SEttinGS] > ENTER > [3. Acc. tYPE] > ENTER > [1. CodE] > ENTER > [2. En] > ENTER > [donE]

3) disable access using TM tag:

[3. SEttinGS] > ENTER > [3. Acc. tYPE] > ENTER > [1. t. tAG] > ENTER > [1. diS] > ENTER > [donE]

4) enable access using TM tag:

[3. SEttinGS] > ENTER > [3. Acc. tYPE] > ENTER > [1. t. tAG] > ENTER > [2. En] > ENTER > [donE]

5) disable access using RFID tag:

[3. SEttinGS] > ENTER > [3. Acc. tYPE] > ENTER > [1. r. tAG] > ENTER > [1. diS] > ENTER > [donE]

6) enable access using RFID tag:

[3. SEttinGS] > ENTER > [3. Acc. tYPE] > ENTER > [1. r. tAG] > ENTER > [2. En] > ENTER > [donE]

Door unlock timer in error case

If any error occurs e.g. tag reader or keyboard fail, error indicator will be shown on the screen see chapter 6 for more info. Since there is danger that users can't enter to building, special door unlock timer was implemented. After programmed period timer will open doors if it's impossible to do so by user code or tag, in error case. Error timer submenu structure is shown in fig. 17.

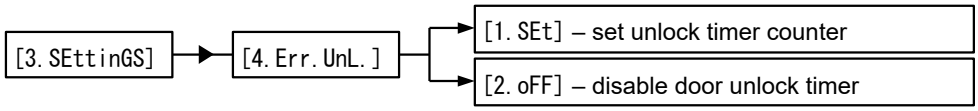

Fig. 17: Structure of error timer configuration submenu

To set error timer up, please do following (timer units – seconds):

[3. SEttinGS] > ENTER > [4. Err. UnL.] > ENTER > [1. SEt] > ENTER > [t-] > (enter timer interval in seconds=2) > ENTER > [donE]

To turn the error timer off do the following:

[3. SEttinGS] > ENTER > [4. Err. UnL.] > ENTER > [2. oFF] > ENTER > [donE]

Call signal number

at the Calling to the apartment time, to handset is senting the beeper. The default is sent the 5 calls. After completion, the subscriber can still answer the call. Call the number of rings can be changed from 1 to 15. The example shows how to set the maximum number of calls

[3. SEttinGS] > ENTER > [5. CS. no] > ENTER > [no. -] > (input value no.=15) > ENTER > [donE]

Unlock Signal in handset ON / OFF

Opening the door using the key or the code intercom intercom handset to a call informing about the fact that someone is coming to the apartment. This item allows you to enable or disable this feature. Unlocking the handset off the signal structure is shown in Figure 21.:

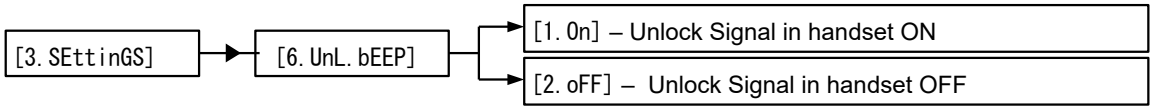

Fig. 18: **Unlock Signal in handset ON / OFF**

Unlock Signal in handset ON

[3. SEttinGS] > ENTER > [6. UnL. bEEP] > ENTER > [1. on] > ENTER > [donE]

Unlock Signal in handset OFF

[3. SEttinGS] > ENTER > [6. UnL. bEEP] > ENTER > [2. oFF] > ENTER > [donE]

CPW (Chipselect) function

This feature turns off the camera power on BUS send / receive a signal used for delivery of a network connection intercom This item allows you to enable or disable this feature. Unlocking the handset off the signal structure is shown in Figure 22 .:

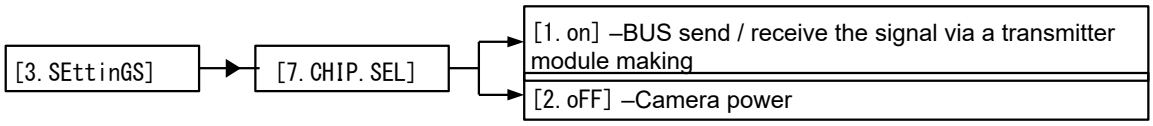

Fig. 19: **CPW (Chipselect) function**

BUS send / receive the signal through the making of a transmitter module Switching

[3. SEttinGS] > ENTER > [7. CHIP. SEL] > ENTER > [1. on] > ENTER > [donE]

Power On Camera

[3. SEttinGS] > ENTER > [7. CHIP. SEL] > ENTER > [2. oFF] > ENTER > [donE]

4.3.4. Volume control

DD-5100 door phone allows to manage audio signal sound volume digitally. That means sound levels could be regulated any time easily without any additional tools. For Structural scheme of volume control menu see fig. 20. There are three types of setting a signal sound level: 1) indoor conversation volume 2) outdoor conversation volume 3) volume of system sound (buttons beep sound, door unlock sound etc.).

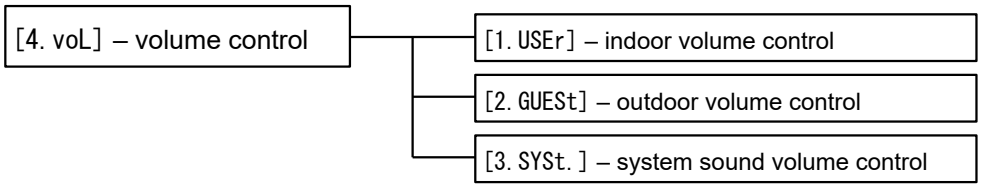

Fig. 20: Structural scheme of volume control menu

Indoor volume control

Indoor volume is set for 6 under 1-10 point scale by default. For change of set value choose this menu item and perform actions, following an example:

[4. voL] > ENTER > [1. USEr] > ENTER > [-06-] > (change volume by using ↑ ↓ buttons) > ENTER > [donE]

Outdoor volume control

This menu item allows to change outdoor volume. It is set for 6 under 1-10 point scale by default. Loudspeaker volume is changed performing actions similar to indoor volume:

[4. voL] > ENTER > [2. GUESt] > ENTER > [-06-] > (change volume by using ↑ ↓ buttons) > ENTER > [donE]

System signals sound control

DD-5100 door phone allows to regulate system signal sound volume. “System signals” means all other system audible signals: sounds of keyboard button pressing, door unlock signal, system informational signals and others, except volume of conversation. This function is necessary in case residents of the first floor are annoyed by too loud peeping of door phone system. You could lower a door phone sound as preferred without changing conversational volume. Loudness is changed as follows:

[4. voL] > ENTER > [3. SYSt.] > ENTER > [-06-] > (change volume by using ↑ ↓ buttons) > ENTER > [donE]

4.3.5. User (subscriber) administrating

Often door phone possibilities allow connect more subscribers, than an actual amount. In order to avoid any unconnected addresses, it could be connected by programming. Subscriber administrating function could be used as a preventive measure for subscribers, failed to pay for services provided. Such subscribers could be disconnected from the system, also door unlock function could be limited, leaving possibility of conversation. See fig. 21 for structural scheme subscriber administrating menu item.

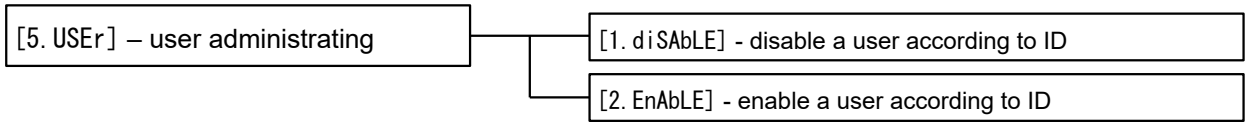

Fig. 21: Subscriber administrating menu

Disable

Disable submenu structure is shown in fig. 22.

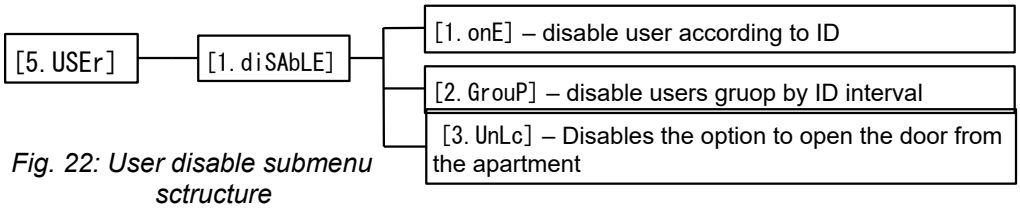

Fig. 22: User disable submenu sctructure

Disable a user according to ID

When disabling a user from the system according to ID the possibility to use handset and individual door unlock code are totally limited. However, a possibility to use TM/RFID identificators remains.

[5. USEr] > ENTER > [1. diSAbLE] > ENTER > [1. onE] > ENTER > [id-] > (enter ID e.g. ID=12) > ENTER > [donE] - ID=12 disabled

Disable a group of users ID

This function allows to disable a whole interval of ID addresses. It is useful for disabling of several addresses or even all of them at once. Enter just the first and the last address, as presented by an example:

[5. USEr] > ENTER > [1. diSAbLE] > ENTER > [2. GrouP] > ENTER > [F. Id-] > (enter first address, e.g. ID=36) > ENTER > [L. Id-] > (enter last address, e.g. ID=255) > ENTER > [donE] - ID addresses from 36 to 255 are disabled

Disables the option to open the door from the apartment

This function leaves the option to call into the apartment, but the client does not have the opportunity to open the door unlock button on the stamps of intercom intercom handset.

[5. USEr] > ENTER > [1. diSAbLE] > ENTER > [3. UnLc] > ENTER > [Id-] > (Enter the correct ID address, such as ID = 12) > ENTER > [donE]

Enable

Enable submenu structure is shown in fig. 23.

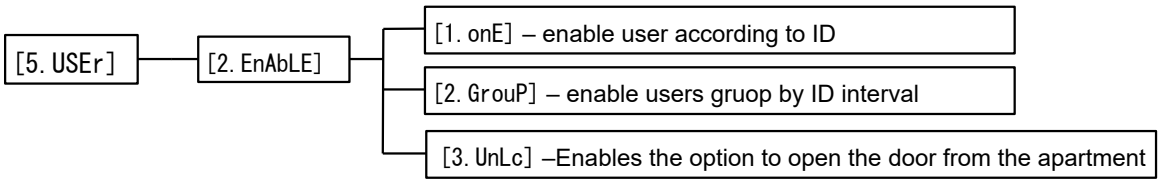

Fig. 23: User enable submenu structure

Enable a user according to ID

To enable user according ID is as easy, as to disable. After enabling a user, all previous settings, related to user's ID, remain (e.g. Door unlock code).

[5. USEr] > ENTER > [2. EnAbLE] > ENTER > [1. onE] > ENTER > [id-] > (enter ID e.g. ID=12) > ENTER > [donE] - ID=12 enabled

Enable a group of users ID

A group of users ID is connected in the same way. Enter the first and the last address, as presented by an example:

[5. USEr] > ENTER > [2. EnAbLE] > ENTER > [2. GrouP] > ENTER > [F. Id-] > (enter first address, e.g. ID=36) > ENTER > [L. Id-] > (enter last address, e.g. ID=255) > ENTER > [donE] - ID addresses from 36 to 255 are enabled

Enables the option to open the door from the apartment

This option will activate the option to open the door unlock button on the stamps of intercom intercom handset.

[5. USEr] > ENTER > [1. EnAbLE] > ENTER > [3. UnLc] > ENTER > [Id-] > (Enter the correct ID address, such as ID = 12) > ENTER > [donE]

4.3.6. Setting of addressing

DD-5100 door phone system allows to use three types of addressing (fig. 24) - regular, shifted and hotel. The mentioned types are described in detail below.

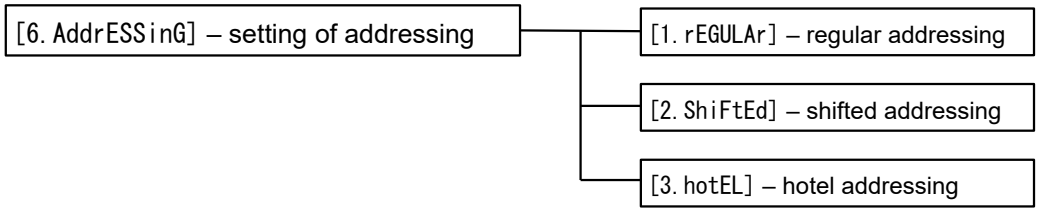

Fig. 24: Setting of addressing

Regular addressing

Set in the system by default. This is a regular type of addressing: all 255 physical and logic ID addresses are placed by a rank order from 1 to 255. In order to activate this type perform the following:

[6. AddrESSinG] > ENTER > [1. rEGULAr] > ENTER > [donE] – regular addressing is set

Shifted addressing

Shifted addressing is a type, when all 255 physical ID addresses are placed by a rank order from 1 to 255, while logic addresses will be shifted upon an appropriate constant value. For example, if addressing is set for Sh=100, logic addresses will be placed from 101 to 355. In this case when calling to logic address LID=115, a system will call a physical address FID=15. Sh – shifting constant value, LID – logic address, FID – physical address. Physical address could be counted upon the following formula (*FID = LID – Sh*).

e.g. *FID = LID – Sh = 115 – 100 = 15.* Setting of this type addressing is as follows:

[6. AddrESSinG] > ENTER > [2. ShiFtEd] > ENTER > [Sh-] > (enter shifting constant, e.g. Sh=100) > ENTER > [donE] – addressing shifted by Sh=100

A maximum allowed shifting value is Sh=9744. In this case logic address will be from 9745 to 9999.

Hotel addressing

Hotel addressing is a type, when all 255 physical ID addresses are placed by a rank order from 1 to 255, while logic addresses will be scrolled upon number of floors and number of flats within a floor. In order to configure hotel addressing for an appropriate house, choose this type of addressing, start a new addressing configuration and set intervals for logic addresses. See fig. 25 for hotel addressing menu structure:

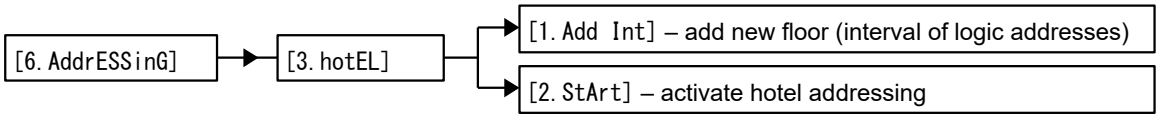

Fig. 25: Hotel addressing menu structure

For better understanding let us analyze an example. Let's imagine that we need to configure a door phone for a four-storey house with 6 flats on the second floor with numbers starting from No.4. Other floors contain 9 flats. See table 3 for an example with physical FID and logic LID address link.

Table 3: An example of hotel addressing

Floor number	Number of flats within a floor	Logic addresses, *LID*	Physical addresses, *FID*
1	9	101 - 109	1 - 9
2	6	204 - 209	10 - 15
3	9	301 - 309	16 - 24
4	9	401 - 409	25 - 33

For configuration a hotel addressing to the mentioned house perform the following steps:

1) Choose this type of addressing and start a new addressing configuration:

[6. AddrESSinG] > ENTER > [3. hotEL] > ENTER > [2. StArt] > ENTER > [SEt?] > ENTER > [donE] – An old hotel configuration is deleted, a new one is started.

2) Add logic addresses of the first floor (101-109):

[6. AddrESSinG] > ENTER > [3. hotEL] > ENTER > [1. Add] > ENTER > [Fni-] > (enter ID=101 of the first flat in first floor) > ENTER > [Lni-] > (enter ID=109 of the last flat in first floor) > ENTER > [donE]

3) Add logic addresses of the second floor (204-209):

[6. AddrESSinG] > ENTER > [3. hotEL] > ENTER > [1. Add] > ENTER > [Fni-] > (enter ID=204 of the first flat in second floor) > ENTER > [Lni-] > (enter ID=209 of the last flat in second floor) > ENTER > [donE]

4) Add logic addresses of the third floor (301-309):

[6. AddrESSinG] > ENTER > [3. hotEL] > ENTER > [1. Add] > ENTER > [Fni-] > (enter t ID=301 of the first flat in third floor) > ENTER > [Lni-] > (enter ID=309 of the last flat in third floor) > ENTER > [donE]

5) Add logic addresses of the fourth floor (301-309):

[6. AddrESSinG] > ENTER > [3. hotEL] > ENTER > [1. Add] > ENTER > [Fni-] > (enter ID=401 of the first flat in forth floor) > ENTER > [Lni-] > (enter ID=409 of the last flat in forth floor) > ENTER > [donE]

The configuration is finished. We recommend preparing a table of physical and logic addresses as shown in the table 3.

NOTE. Intervals for logic addresses could be chosen freely. However, despite an order of entering intervals for logic addresses, physical addresses are placed by its rank order from 1 to 255; the total sum of flats, connected to a door phone must not exceed 255.

4.3.7. Network settings

Network settings menu is configuration dependent. There is three network settings menu variants:

a) main menu (default configuration – network disabled).

For this configuration, network settings menu structure is shown in fig. 26.

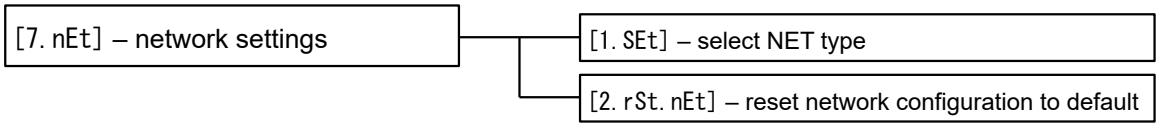

Fig. 26: Network configuration submenu structure

To enable network configuration chose [1. SEt], select on of NET types shown in fig. 27, select either H (master) or L (slave) configuration and enter ID. For more info about network configuration please refer to 5.3 " Network configuration". To enable NET1 network configuration and master – H type, please do following:

[7. nEt] > ENTER > [1. SEt] > ENTER > [1. nEt1] > ENTER > [1. H-SEt] > ENTER > [id-] > (enter ID=1 for first H type doorphone in network) > ENTER > [donE]

The same applies for other NET types. For example select NET3 configuration and L type:

[7. nEt] > ENTER > [1. SEt] > ENTER > [1. nEt3] > ENTER > [1. L-SEt] > ENTER > [id-] > (enter ID=3 for third L type doorphone in network) > ENTER > [donE]

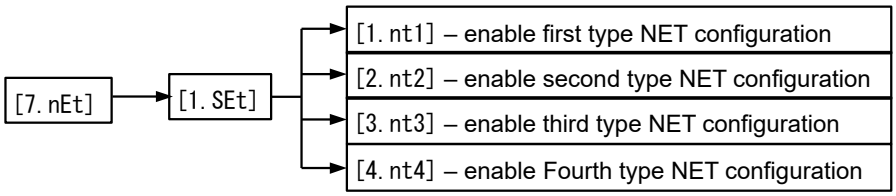

Fig. 27: Network types submenu

After settings were saved, depending on whether L or H type was selected, structure of network settings menu changes.

By selecting [2. rSt. nEt] network settings are set to default values (disabled):

[7. nEt] > ENTER > [2. rSt. nEt] > ENTER > [rSt?] > ENTER > [n. 0] > [donE]

b) network settings menu for L type configured doorphone.

If L type doorphone was chosen, then only two actions are available: edit and reset as shown in fig. 28.

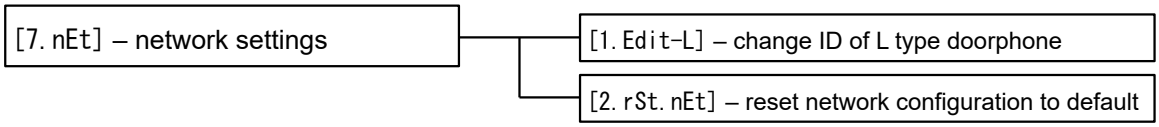

Fig. 28: network settings menu of L type configured doorphone

To change allready selected ID of L type doorphone select menu item [1. Edit-L] and enter new ID:

[7. nEt] > ENTER > [1. Edit-L] > ENTER > [id-] > (enter ID=(let' say 3) for third L type doorphone in network) > ENTER > [donE]

Network settings reset is done exactly the same way as in a) variant – main (default) menu:

[7. nEt] > ENTER > [2. rSt. nEt] > ENTER > [rSt?] > ENTER > [n. 0] > [donE]

After reset a) variant (main – default) network settings menu is active.

c) network settings menu for H type configured doorphone.

If H type doorphone was chosen, then three actions are available: add L type doorphone to H type's list, edit ID of H type doorphone and reset network settings to default values. Fig. 29 Shows menu structure of H type configured doorphone.

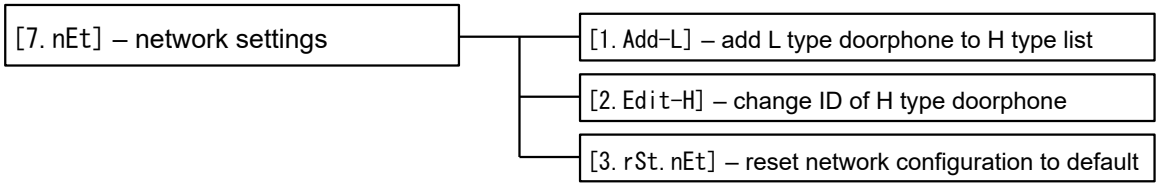

Fig. 29: Structure of network settings menu of H type configured doorphone

H type doorphone must know which L type doorphones are connected to network. So ID's of all L type doorphones in network should be addet to H type (master) doorphone's list. To do so please do following:

[7. nEt] > ENTER > [1. Add-L] > ENTER > [id-] > (enter ID=(let' say 3) for third L type doorphone in network) > ENTER > [donE] - third L type doorphone was added to H type doorphone's list.

To change allready selected ID of L type doorphone select menu item [1. Edit-L] and enter new ID:

[7. nEt] > ENTER > [1. Edit-H] > ENTER > [id-] > (enter ID=(let' say 1) for first H type doorphone in network) > ENTER > [donE]

Network settings reset is done exactly the same way as in a) variant – main (default) menu:

[7. nEt] > ENTER > [2. rSt. nEt] > ENTER > [rSt?] > ENTER > [n. 0] > [donE]

After reset a) variant (main – default) network settings menu is active.

4.3.8. Reset to factory settings

DD-5100 has two reset options: reset only DD-5100 settings, and complete reset including deleting of all users data. Structure of factory reset menu is shown in fig. 30.

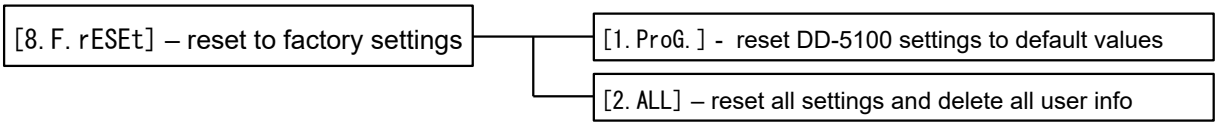

Fig. 30: Structure of factory reset menu

To reset only system configurations settings to factory settings choose [1. ProG.] menu item and confirm

your choice. See an example of reset to factory settings:

[8. F. rESEt] > ENTER > [1. ProG.] > ENTER > [rSt?] > ENTER > [donE]

To reset all settings including all user data erasure, choose [2. ALL] menu item and confirm your choice. See an example of full reset:

[8. F. rESEt] > ENTER > [2. ALL] > ENTER > [rSt?] > ENTER > [donE]

After this step the system restarts automatically and factory settings come into effect.

NOTE. Restoring of factory settings is valid for only ones, defined in table 4.

Table 4: Values of factory settings

Title	Description	Factory value
[3. SEttinGS]		
[1. Lc. dELAY]	Unlock delay time (1 – 100) sec	5 sec
[2. Lc. tYPE]	Lock type (electromagnetic lock / electric bolt)	NC (electromagnetic lock)
[3. Acc. tYPE]	Access control type	code / TM key / RFID identificator
[4. CS. no]	Number of call signals	5
[4. voL]		
[1. Indoor]	Indoor volume level (1 – 10)	6
[2. outdoor]	Outdoor volume level (1 – 10)	6
[3. Sound]	System signals sound level (1 – 10)	6
[6. AddrESSinG]	Type of addressing (regular/shifted/hotel)	Regular
[7. nEt]	Network configuration (NET1/NET2/NET3)	Network disabled

Chapter 5. Doorphone net types and configuration

Warning: Net configuration is supported only in DD-5100 doorphone with software version v.358 and higher.
Important: intercom connecting to the network is recommended to connect the call through a network extender panels that protect the call panel of Electromagnetic pulse interference and remove the impulse line(fig. 11)

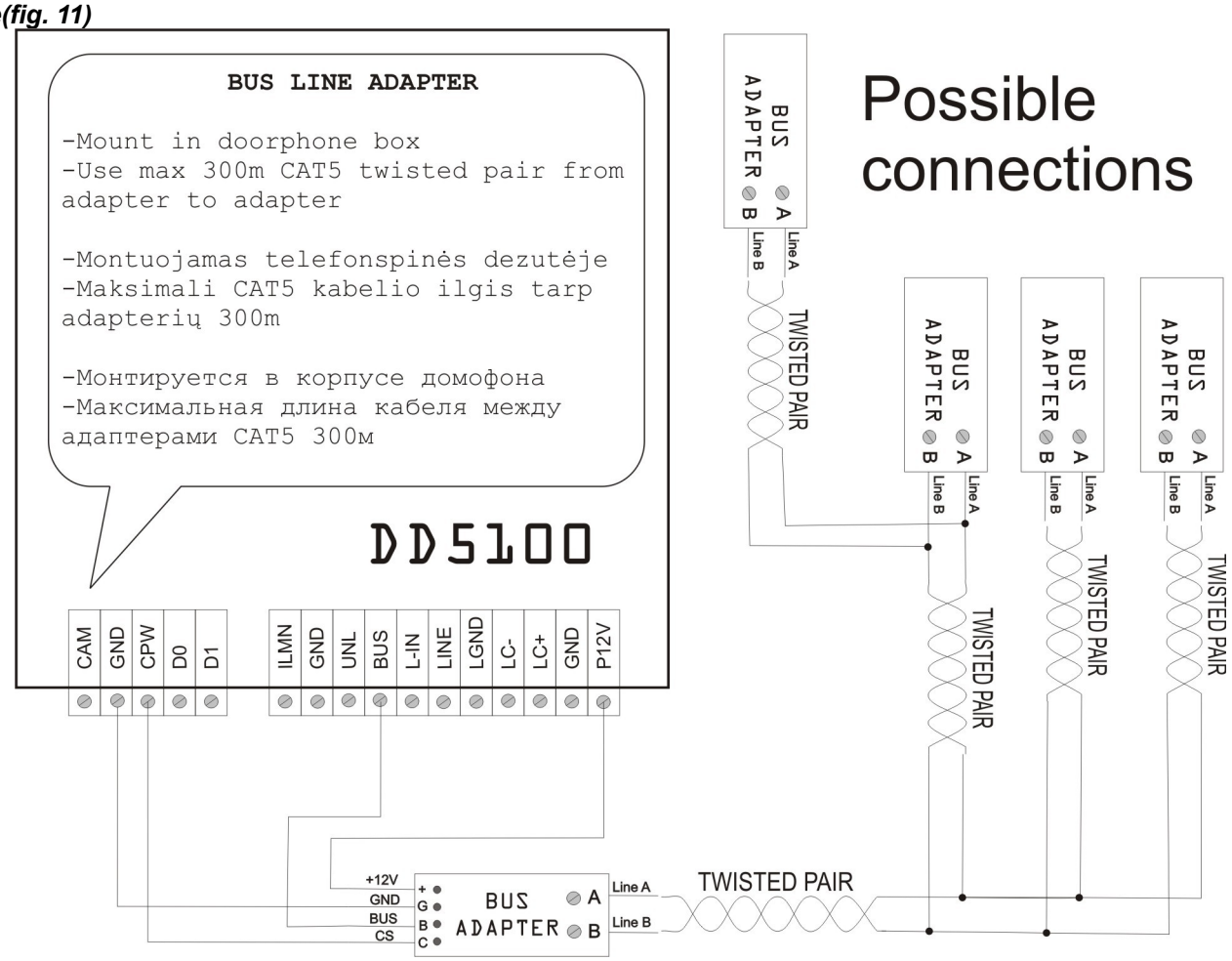

Fig. 11 Intercom connection through a network extender

5.1. Introduction to Net configurations

L – Low Level (Slave) doorphone. To this doorphone should be connected handsets line. In this doorphone are saved main settings, user keys and codes.

H – High Level (Master) doorphone. This doorphone interacts with L doorphone and through it calls to L doorphone connected handset. H doorphone also asks L doorphone for programmed keys and codes to decide whether to open the H doorphone controlled doors.

To check selected doorphone Net type, following key sequence needs to be entered:
*1003#
following info will be shown on display:
[(doorphone type). (active Net type, if any)]
[doorphone ID number]

Example:
[L.nt2] – L type doorphone. NET2 type Net configuration
[102] – L doorphone ID = 102
possible H values (1-255)
possible L values (1-9999)

5.2. Ways to connect DD5100 to Network (Net types)

5.2.1. NET4

Using NET4 network configuration, you need to connect several houses (stairs) with identical numbers and one picture in the network.

In this configuration, doorphone are connected via a specially designed ADV-201 switch. This switch is assigned a home (staircase) number which is dialed to the H telephoniesdoorphone , and from the L doorphone the apartment numbers are chosen as usual.

NET 4 network configurations for H doorphone the apartment number is chosen:
[HOUSEHOLD NUMBER] (*) [HOUSE NUMBER] (ENTER)

During the network configuration of a NET4 call, from another, the other ones connected to the network are displayed in [BUSY] when another apartment number is selected.

5.3. Network configuration

a) Select network configuration menu from main menu [7. nEt],
b) select first option to enable network configuration [1. SEt],
c) You can reset Net configuration by selecting [2. rSt. nEt].
It is recommended to do Net configurations reset prior configuration:
[7. nEt] > (ENTER) > [2. rSt. nEt] > (ENTER) > [rSt?] > (ENTER) > [donE].

5.3.1. Net configuration examples

Example 1: let's configure L type doorphone for NET4 type network, ID=102:
please do following in programming menu:
[7. nEt] > (ENTER) > [1. SEt] > (ENTER) > [2. nt4] > (ENTER) > [2. L-SEt] > (ENTER) > [id-] > (enter ID (e.g. L=102)) > (ENTER) > [done]

When doorphone is programmed as L type, structure of menu [7. nEt] changes:
[1. Edit-L] – here current ID could be changed,
[2. rSt. nEt] – network configuration reset.

Example 2: let's configure H type doorphone for Net4 type network, ID=1:
please do following in programming menu:
[7. nEt] > (ENTER) > [1. SEt] > (ENTER) > [2. nt4] > (ENTER) > [2. H-SEt] > (ENTER) > [id-] > (enter ID (e.g. H=1)) > (ENTER) > [done]

When doorphone is programmed as H type, structure of menu [7. nEt] changes:
[1. Add-L] – here L type doorphones, connected to network, are added to H type doorphone list,
[2. Edit-H] – here current ID of H type doorphone could be changed,
[3. rSt. nEt] – network configuration reset.

For H type doorphone, those L type doorphones, which is connected to, needs to be specified. Here's how its done:
[7. nEt] > (ENTER) > [1. Add-L] > (ENTER) > [id-] > (enter ID of L type doorphone, used in Net (e.g. L=102)) > (ENTER) > [done]

5.4. Error codes

[bEr1] – BUS line is shorted. This error is shown only on H type doorphone display. If this happens, doorphone will open doors every 5 min.
[bEr2] – Presence impulse wasn't received.
[bEr3] – Error in strobing, unknown bit (0 or 1).
[bEr4] – Communication was interrupted or time out.
[bEr5] – Read error - unknown data byte was read.
[bEr6] – Read error – ACK wasn't received at the end of transmission.

Chapter 6. Error, its identification and troubleshooting

Door phone DD-5100 graphically indicates the main errors. Graphical codes and descriptions of errors, fixed by a door phone are presented in table 5. In case of Er2-Er5 errors, doors have been unlocked every 5 minutes automatically. In case of Er-1 error, calls to audio handsets fail, but doors could be unlocked by door unlock code or using electronic identificators.

Table 5: Error indication and description

Error code	Possible reason
Er-1	Short circuit of handsets connection line
Er-2	Breakdown of a keyboard, seized button or damaged keyboard
Er-3	Short circuit of TM key reader
Er-4, Er-5	Error/breakdown of system internal data link

Troubleshooting:

- Er-1: switch off a door phone power supply, disconnect handsets connection line wires and switch power supply on. In case a door phone does not show error Er-1, check receiver line on the matter of short circuit or breakdown. In case error mark appears, demount door phone module and present it to service workshops.
- Er-2: inspect the keyboard carefully on the matter of physical deformation or damages; check whether no button is seized. In case there aren't any of the mentioned features, demount door phone module and present it to service workshops.
- Er-3: clean TM reader in bottom part of door phone module. Stored dust, water, ice or snow could disturb system operation. In case error mark appears, demount door phone module and present it to service workshops
- Er-4, Er-5: restart the system – switch off the door phone power supply and switch it on again. In case error mark appears, demount module and present it to service workshops.

User Manual

NOTE. Each flat is delivered with an appropriate manufacturer PIN code – 1234. Change it, otherwise doors unlock code and new identificator programming function are unavailable.

1. How to use a door phone:

- For connection with a subscriber enter his/her flat number (from 1 to 9999) and press *ENTER* (otherwise call will be started automatically after 3 sec). Should a mistake appear or for canceling your call press *CANCEL*.
- Conversation starts upon subscriber's, whom you are calling to, answer. During the conversation the subscriber could unlock the doors using a button on audio handset.
- Door unlock delay time is programmed during system installation and does not depend on duration of pressing the unlock button.
- Unlock button functions only within a handset, the call was addresses to, and only in 2 sec after subscriber's answer.
- Duration of a call and a conversation is limited to 1 min and 2 min accordingly. After this term finishes, the system returns to duty mode.
- In case a door was unlocked with your PIN code, a handset will shortly peep 3 times.
- Handset's switch on/off button allow to switch the receiver off.

2. Entering from outside

There are two ways of unlocking a door externally:

- Using TM identificator *
  Attach TM key to a reader. If the key is suitable (added to a door phone memory**), the door unlocks. A rank number of your key and a note "OPEN" appear on a display shortly with a sound signal. In case an identificator is related to a flat, a sound signal (informing on door unlock using an electronic key) will be sent to an handset.
- Using RFID identificator *
  Attach RFID identificator to a door phone display (reader antenna is mounted within) . If the identificator is suitable (added to a door phone memory**), the door unlocks. A rank number of the identificator and a note "OPEN" appear on a display shortly with a sound signal. In case an identificator is related to a flat, a sound signal (informing on door unlock using an electronic key) will be sent to an handset.
- Entering a door unlock code
  A door unlock code consists from a flat number ID, a keyboard symbol "*" and an individual 4-digits code (XXXX)-ID*XXXX. For 4-digits code programming see "Set/change users door unlock code", page 23, or User's Manual, below. After entering a right code using a keyboard, the door unlocks. A note "OPEN" appears on a display with a sound signal of the door phone and an additional sound signal (informing on door unlock using individual code, related to the flat) will be sent to an audio receiver.
- Doors could be unlocked by the person you are calling to during the conversation
  In order to come indoors, a person (a guest) could call to any flat. During the conversation other person by the handset has a possibility to unlock the door*** and let the guest in. to unlock the door is possible after 2 sec from the beginning of the conversation. For unlock the door, press a button within the handset without hang up. Door could be unlocked using the handset, a call is addressed to, during the conversational session only.

3. Internal door unlock

To unlock the door from inside the building press an unlock button, placed indoors, near the door.

4. Changing of user's PIN code:

NOTE. Each flat is delivered with an appropriate factory PIN code – 1234. Change it, otherwise doors unlock by code is unavailable.

For changing PIN code two persons are necessary: one staying outdoors near a outdoor panel, other – indoors by the handset.

1. Enter a flat number, press (ENTER) and wait till a person indoors answers.
2. Press and hold (↑). A person indoors should press a door unlock button for three times (each second).
3. Four dashes will be shown on a display. Enter an old (or factory) PIN .
4. A word "PIN" flashes and four dashes are shown on a display. Enter a new PIN.

If made a mistake, press CANCEL and start the procedure over. If all steps are performed correctly, the PIN code will be changed.

5. Programming of new identificators

NOTE. This function is unavailable in case factory PIN code is not changed. The System will ask to change a factory code first and then programming of identificators becomes available.

Two persons are necessary to program new identificators: one staying outdoors near a call panel, other – indoors by a handset.

1. Enter a flat number, press ENTER and wait till a person indoors answers.
2. Press and hold ⬇ . A person indoors should press a door unlock button for three times (each second).
3. Four dashes will be shown on a display. Enter PIN code.
4. A new key list number will be shown on a display. Attach a new identificator to the reader. It will be programmed. In case of attaching an old key, the system peeps two times without re-programming.

New keys should be programmed one by one separately. In order to program several keys, repeat the procedure several times. Should a mistake appear, press CANCEL and start the procedure from the beginning.

* DD-5100T – door phone with TM reader, DD-5100R – door phone with TM and RFID readers.
** *Ways of entering identificators to a door phone memory are described in the clause “Add a new identificators”, page 21 or “User’s Manual”, above.*
*** A possibility to unlock the door using a handset could be limited by programming (See “Disable a user according to ID“, Page 27).