

# IP-Fermax - DoorPhone

## *IP-Fermax*

*IPF-00, IPF-01, IPF-02  
IPF-00C, IPF-01C, IPF-02C*



Installation and operating instructions

# Welcome

Congratulation to purchase modern VOIP door entry system “VoIP Door Phone **Fermax**” **IP Fermax**. This door entry widely satisfy your needs for communication to visitors of your company, homes, schools etc...

Simply VoIP means “**Voice over Internet Protocol**” – this door entry is connectable to IP network and allows 2 ways of calling. Either P2P (peer to peer) – it means call directly to IP adress of other VOIP device or registrates to SIP server ( as SIP client) and then call phone number.

To each button you can assign 5 phone numbers with possibility of progressive or simoultaneous dial.

The IP-Fermax doorphone comes with one or two buttons or no push-button, either with color camera or without camera. The system is modular and can be expanded to up to 200 buttons and equipped with a keypad.

The IP-Fermax doorphone is powered by a 12V power supply that can be used to power the door lock or the IP-Fermax can be PoE powered (Power over Ethernet). The features are similar to a hand-free phone. Basic features include the ability to open up to 2 doors with connected electrical locks and easy programming via the WEB interface.



Producer progressively improves features of the unit (firmware). The door entry IP Fermax allows whenever upgrade the firmware by newest version via PC. Latest firmware version you can download from [www.alphatechtechnologies.cz](http://www.alphatechtechnologies.cz) .

Neccessary guides you find at page 69. We recommend always use latest firmware version which brings new features as same as eventual correction of errors of previous versions. At [www.alphatechtechnologies.cz](http://www.alphatechtechnologies.cz) you can also find latest versions of user documentation.



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# Contents

<b>1</b>	<b>BASIC DESCRIPTION.....</b>	<b>5</b>
1.1	FEATURES .....	5
1.2	USED TERMINOLOGY.....	6
1.3	ASSEMBLY OF MODULES .....	8
1.3.1	<i>Voice modules without a camera .....</i>	<i>8</i>
1.3.2	<i>Voice modules with a camera .....</i>	<i>9</i>
1.3.3	<i>Push button modules and keypad.....</i>	<i>10</i>
1.3.4	<i>Numeric keypad .....</i>	<i>10</i>
1.3.5	<i>Mechanical parts .....</i>	<i>11</i>
1.4	MOUNTING OF IP FERMAX.....	12
1.4.1	<i>Mounting on the wall .....</i>	<i>12</i>
1.4.2	<i>Mounting into the wall.....</i>	<i>12</i>
1.5	CONNECTION OF IP-FERMAX .....	13
1.5.1	<i>IP-Fermax main board .....</i>	<i>13</i>
1.5.2	<i>Front panel .....</i>	<i>16</i>
1.5.3	<i>Camera (22).....</i>	<i>17</i>
1.5.4	<i>Replacement of name cards .....</i>	<i>17</i>
1.5.5	<i>Power supply - clamp (10).....</i>	<i>18</i>
1.5.6	<i>Micro SD card (4).....</i>	<i>18</i>
1.6	CONNECTION OF SWITCHES .....	19
1.6.1	<i>PoE power supply source.....</i>	<i>21</i>
1.6.2	<i>Code relay (COSW) .....</i>	<i>22</i>
1.6.3	<i>Use of door sensors – exit button.....</i>	<i>22</i>
1.7	NUMBERING OF PUSH BUTTONS.....	23
<b>2</b>	<b>SERVICE OF IP-FERMAX .....</b>	<b>24</b>
2.1	SIGNALLING OVERVIEW .....	24
2.2	OVERVIEW OF SIGNALLING .....	24
2.3	VISITOR AT DOOR.....	24
2.3.1	<i>Push Button press – outgoing call .....</i>	<i>24</i>
2.3.2	<i>Button press – code lock .....</i>	<i>25</i>
2.3.3	<i>Call .....</i>	<i>25</i>
2.4	VISITOR INSIDE BUILDING .....	26
2.4.1	<i>Outgoing call .....</i>	<i>26</i>
2.4.2	<i>Incoming call .....</i>	<i>26</i>
2.5	VIDEO .....	27
<b>3</b>	<b>PARAMETRES PROGRAMMING .....</b>	<b>28</b>
3.1	WEB INTERFACE ACCESS.....	28
3.1.1	<i>What you should know .....</i>	<i>28</i>
3.1.2	<i>Login.....</i>	<i>29</i>
3.2	CURRENT STATUS .....	30

3.2.1	<i>Language settings</i> .....	31
3.3	IP NETWORK SETTING .....	31
3.3.1	<i>IP Network setting</i> .....	31
3.3.2	<i>SIP setting</i> .....	34
3.3.3	<i>WEB server</i> .....	38
3.4	BASIC SETTING .....	40
3.4.1	<i>Phone book</i> .....	40
3.4.2	<i>Relays</i> .....	43
3.4.3	<i>Door sensors</i> .....	47
3.4.4	<i>Setting SNMP</i> .....	48
3.4.5	<i>Time profiles</i> .....	49
3.4.6	<i>Date and time setting</i> .....	50
3.4.7	<i>E-mail</i> .....	52
3.5	EXTENDED SETTING .....	54
3.5.1	<i>DoorPhone</i> .....	54
3.5.2	<i>Audio setting</i> .....	57
3.5.3	<i>Audio codecs</i> .....	58
3.5.4	<i>Video setting</i> .....	59
3.5.5	<i>Video watching (PopUp programm)</i> .....	60
3.5.6	<i>Video codecs</i> .....	61
3.5.7	<i>Streaming</i> .....	62
3.6	SERVICE .....	64
3.6.1	<i>Restart</i> .....	64
3.6.2	<i>Configuration</i> .....	65
3.6.3	<i>Language and style</i> .....	66
3.6.4	<i>Style and language preparation</i> .....	67
3.6.5	<i>Firmware upgrade</i> .....	69
3.6.6	<i>Logfile</i> .....	70
3.6.7	<i>License</i> .....	72
3.6.8	<i>Sound files</i> .....	73
<b>4</b>	<b>TECHNICAL PARAMETRES</b> .....	<b>74</b>
4.1	ELECTRICAL PARAMETRES .....	74
4.2	MECHANICAL DIMENSIONS .....	74
4.3	VIDEO PARAMETRES .....	75
4.3.1	<i>Requests</i> .....	76

# 1 **Basic description**

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## 1.1 **Features**

- audio is full duplex with ECHO cancellation
- phone book for 999 subscribers with 5 tel. numbers for each (max. 200 physical buttons + keyboard)
- every subscriber has more phone numbers with progressive or simultaneous calling
- Email sending when is unreachable including attachment with pictures
- 10 time plans with week programm
- 4 relays. 2 included on board with possibility connect 2 independent locks for door opening and 2 virtual (webrelays) (for remote control of IP relay or relays synchronization)
- Relays system via synchronization allows combination of any mode (progressive opening, 2 pulses etc..)
- 10 shared adjustable codes for every relay + every subscriber has own code for every relay
- all versions can use door sensors or exit buttons
- SNMP usage possibility
- real time clocks from NTP or SIP server
- extendable possibilities of buttons functionality, light intensity settings, call duration restriction, etc...
- audio signalling settings, saving own tones or messages
- multilanguage support
- multilevel loading and configuration refresh
- reliable firmware upgrade
- *logging system with possibility of data saving to MicroSD card (we prepare)*
- *pictures as same as video saving possibility to MicroSD card (we prepare)*
- WEB interface management
- power supply 12V or PoE (Class 0 - 12,95W)
- Ethernet – 10/100Mb with standard 10BaseT and 100BaseTx
- unit start within 10 seconds
- Linux operating system
- USB connection of integrated webcam. Video transmission to webbrowser - JPEG, video transmission to VoIP phones - stream H.263, H.264
- SIP connection P2P or PBX (SIP server) system, switchable in web interface
- SIP 2.0 protocol, define RFC3261

## 1.2 Used terminology

- **Incoming call** - Connection between a Brave and a phone made by selecting an option on the phone. The Brave connects the call after set number of rings. The Brave can be programmed from the phone following a connection by inputting a password.
- **Outgoing call** - Connection between the Brave and a phone made by choosing an option on the Brave (i.e. Pressing a button).
- **External code** - Combination of 10 buttons or keyboard keys (after pressing the B symbol or bell symbol) for a relay activation. [External = enter code outside the building]
- **Internal code** - Combination of 10 buttons on phone for a relay activation (by DTMF). [Internal = enter code inside the building].
- **Code lock** - Function for relay connections by inputting a combination of up to 10 buttons or keyboard keys (after pressing the key symbol)
- **Ethernet** is technology which is used to build up local networks (LAN)
- **LAN** - Local Area Network (local network) mark PC network which cover small geographical area (for example homes, office, etc...).
- **10Base-T** As transmission medium use twisted twoline cable with rate 10 Mbit/s. It used 2pairs of structured cabling from four.
- **100Base-TX** Version with transmission rate 100 Mbit/s, which is named **Fast Ethernet**. It used 2 pairs UTP or STP cable category 5.
- **Twisted 2line** or also **twisted pair** is cable type which is used in PC networks. Twisted 2line is created by cables pair which are regularly twisted in the length and after pairs are twisted together.
- **UTP**, Unshielded Twisted Pair
- **STP**, Shielded Twisted Pair
- **WEB** - World Wide Web (WWW, shortly **web**), is mark for application of http internet protocol
- **HTTP** (Hypertext Transfer Protocol) is internet protocol design for exchange of hypertext documents in format HTML
- **USB** (Universal Serial Bus) . Modern way of accessories connection to PC
- **Video codec** (compound of word begins „**coder** and **decoder**“) . Compression **H.263** is derived from MPEG-4, **H.264** is coder for format MPEG-4 AVC. **MPEG-4** is kind of video compression – decrease of pictures sequence data flow
- **JPEG** is standard method of loss making compression used for savings PC pictures
- **Voice over Internet Protocol** (shortly **VoIP**) is technology allows transmission of digitized voice in body of family protocols **UDP/TCP/IP** packets via PC network . It is used for calling via internet, intranet or any other data connection.
- **TCP/IP** contents set of protocols for communication in PC network and it is main protocol of worldwide network Internet.
- **IP adresa** is number which definitely identify network interface in PC network which used IP protocol.
- **DHCP** (Dynamic Host Configuration Protocol) is application protocol from family TCP/IP. It is used for automatic assign of IP addresses to individual computers in PC network. Due this simplify its management

- **Internet** is worldwide system of mutually connected PC networks
- **Intranet** is PC network similar to internet but it is „private“. It is designed just for small group of subscribers (for example workers in some company)
- **PoE** (Power over Ethernet) is powering via data network cable.
- **NTP** (*Network Time Protocol*) is protocol for synchronization of internal PC clocks
- **NAT** (*Network address translation*) is a method of remapping one IP address space into another by modifying network address information in Internet Protocol (IP) datagram packet headers while they are in transit across a traffic routing device
- **STUN** (*Session Traversal Utilities for NAT*) is a standardized set of methods and a network protocol to allow an end host to discover its public IP address if it is located behind a NAT.
- **SIP User Agent** - every SIP user agent (phone, software, device) identifies itself with a string. The syntax of this string is not defined, but a common practise is „device name + version“

## 1.3 Assembly of modules

The IP-Fermax doorphone is a modular system, it includes an advanced technology, timeless design. It is easy for installation and operation.

The IP-Fermax doorphone is equipped with two switches or it can control two remote IP switches via http commands. It can be PoE powered. You can choose a version with or without a colour camera. The entire system can be expanded to a maximum of 200 push buttons. It can also be expanded by a keypad.

The IP-Fermax 1CP201IP doorphone has two push buttons and a colour camera. The IP-Fermax 1AP201IP doorphone has two push buttons, it is an audio version without a camera. The IP-Fermax Skyline version is a modular system. The basic IP-Fermax Skyline video module 7421IP contains the main VoIP board, switches, PoE, ETH port and a colour camera. The basic IP-Fermax Skyline audio module 7415IP contains the main VoIP board, switches, PoE, ETH port, it is without a camera.

The Fermax Skyline expanding push button modules and a numeric keypad are the Fermax VDS / BUS2 modules. The Fermax Skyline expansion modules are connected with the 6-core Fermax cable, which is always a part of each Fermax Skyline expansion module.

The Fermax keypad is automatically detected in the system, it does not need to be programmed. Also it does not matter where the Fermax keypad is connected.

The Fermax Skyline VDS / BUS2 push button modules are connected in an independent order of the numbering of the push buttons. The Fermax Skyline push buttons numbering is programmed in the usual Fermax way – by pressing the push buttons in the order from the first to the last (see more details further in the text).

### 1.3.1 *Voice modules without a camera*



Basic module  
1AP201



Basic modular Skyline module  
7415IP



### 1.3.2 ***Voice modules with a camera***



Basic module  
1CP201



Basic modular Skyline module  
7421IP

### 1.3.3 Push button modules and keypad

The Fermax Skyline expanding push button modules and a numeric keypad are the Fermax Skyline VDS / BUS2 modules. The Fermax Skyline expansion modules are connected with the 6-core Fermax cable, which is always a part of each Fermax Skyline expansion module.

The Fermax keypad is automatically detected in the system, it does not need to be programmed. Also it does not matter where the Fermax keypad is connected.

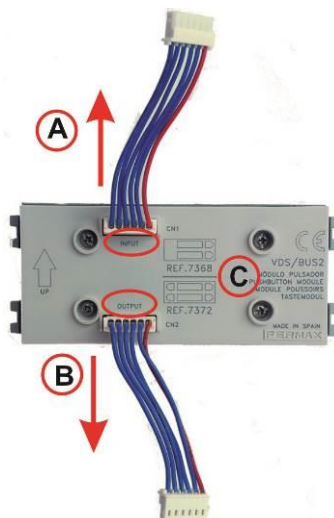
The Fermax Skyline VDS / BUS2 push button modules are connected in an independent order of the numbering of the push buttons. The Fermax Skyline push buttons numbering is programmed in the usual Fermax way – by pressing the push buttons in the order from the first to the last (see more below).

The principle of the connecting the expanding modules **(C)** is shown in the figure.

**Direction A** - (input) is the cable leading to the basic (voice) module.

**Direction B** - (output) is the direction to the last module on the bus.

The position and the order of the expanding modules does not affect the numbering of the push buttons. This is done in the programming sequence (so called „push buttons mapping“) when everything is connected.



### 1.3.4 Numeric keypad

The numeric keypad is the original Fermax Skyline VDS/BUS2 module. It is connected with the 6-core Fermax cable, which is always a part of each Fermax Skyline expansion module.

The Fermax keypad is automatically detected in the system, it does not need to be programmed. Also it does not matter where the Fermax keypad is connected. Its presence in the system can be verified on the main Status page in the programming web interface of the doorphone. The keypad is detected with the first restart after the keypad's connection.

The selection is entered by consecutive pressing of the number buttons, **the key B (or the Bell sign according to the type of keypad)** must be pressed first to enter the password. To hang up the call (to terminate the call), press **the key A** and the doorphone will hang up at any time. When entering an IP address for P2P direct dialling, use **the key B** as the dot (.) in the IP address.



### **1.3.5 *Mechanical parts***

All mechanical parts are the original Fermax Cityline (valid for versions 1AP201IP or 1CP201IP only) or the original modular Fermax Skyline series.

## 1.4 Mounting of IP Fermax

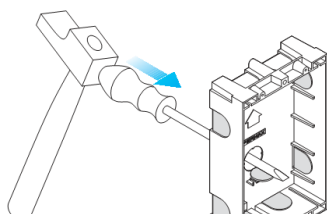
### 1.4.1 *Mounting on the wall*

For surface mounting on the wall use the original Fermax Cityline or Fermax Skyline series of mounting boxes. Mounting is done by screwing on the wall, for example with anchors. As an example, the figure shows a surface mounting box for 1 module. Mount the surface box at the correct height of 1,7m above the floor/ground.



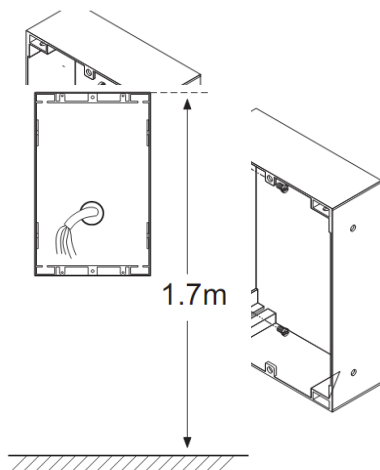
### 1.4.2 *Mounting into the wall*

For flush mounting into the wall use the original Fermax Cityline or Fermax Skyline series of mounting boxes.



1. Prepare the flush mounting box
2. Principle of connecting flush mounting boxes next to each other. Use the original Fermax joining bolts (ref. 8829) to connect the flush mounting boxes.

3. Mount the flush box at the correct height of 1,7m above the floor/ground.



## 1.5 Connection of IP-Fermax

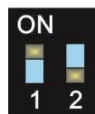
The IP-Fermax contains the main board, optionally a camera board in video version. The main board always comes with two push buttons on the board. In the versions 1CP201IP and 1AP201IP both push buttons are used. The modular Fermax Skyline series does not use any of these push buttons on the main board. Only the Fermax Skyline expansion push button modules are used in this case. Number of push buttons depends on the programming (consecutive pressing of all push buttons in the selected order, more details are explained later on). Up to 200 Fermax Skyline VDS/BUS2 push buttons and a Fermax VDS/BUS2 numerical keypad can be connected to the main board. The main board is equipped with two inputs (two door sensors or two exit buttons) and two switches (relays). By using two programmable virtual relays you can control two remote relays via http commands.

### 1.5.1 IP-Fermax main board

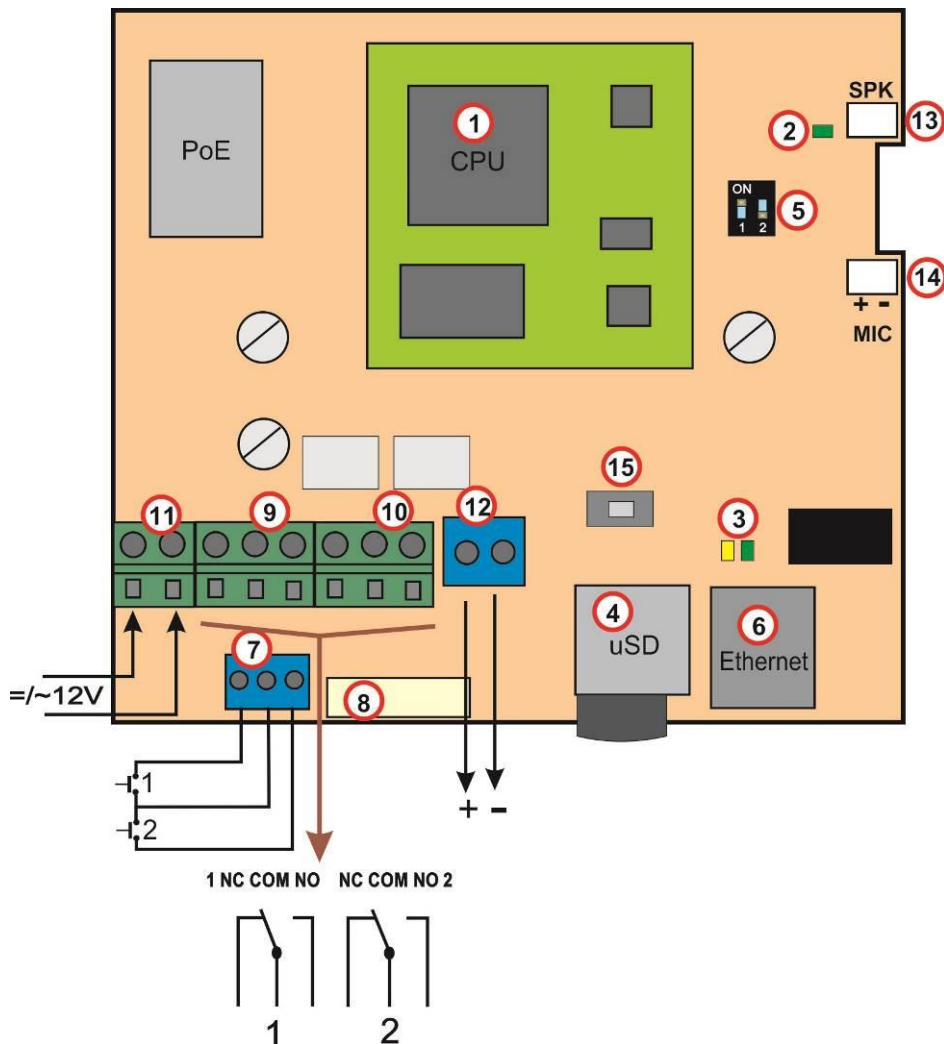
The main board is the same for all models of the IP-Fermax doorphone and it differs only if the camera module is connected or not. There is always a PoE module (according to the norm IEEE802.3af), connector for connecting expansion modules, LED name card illumination, MicroSD card reader slot and two switches (relays).

All functional and connected elements are marked with a number in a red circle.

1. CPU board (processor module)
2. LED green – powering of the doorphone is alright
3. LED for checking network activity, green = connection of 100M LAN, yellow = data transfer on LAN
4. Slot for **MicroSD** card – insert the card before switching on the doorphone and do not pull it out during the entire operation of the doorphone!
5. DIP switch
  - 1 – always on (used for factory service only)
  - 2 – off, when it is „on“ during the start, then a default IP address 192.168.1.250 and a default style are set. Name is **admin** and password is **1234**. To show a video stream, name is **video** and password **1234** (if required). The operational position is **off**.
6. Connection of the UTP cable (Ethernet, LAN, network)
7. Two **switches** (the middle clamp is common for both switches) for door sensors or exit buttons (programmable)
8. Connection of **cable from expansion modules** – 6-wire Fermax cable
9. Terminal block of the switching contact of the **first relay** (NC= normally closed, NO= normally open and COM= common, middle clamp/pin)
10. Terminal block of the switching contact of the **second relay** (NO= normally open and COM=common, middle clamp/pin)



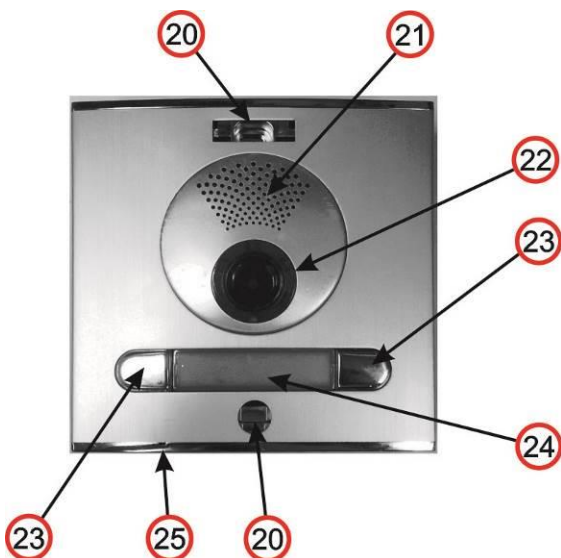
11. **Input** for powering of the IP-Fermax 12V AC / DC (consumption approx. 300mA max.). We recommend using direct current (DC) type of power supply.
12. Output 12V DC, max. 300mA, e.g. for powering of a low consumption electrical lock when there is a PoE type of power for the IP-Fermax doorphone.



13. Connector for the speaker
14. Connector for the microphone (pay attention to the correct polarity)

15. Programming button (after pressing it for 5 sec., the IP-Fermax doorphone will switch to the mapping mode to allocate connected push button modules. When you press the programming button once again, it will save the mapping result to its memory)

## 1.5.2 Front panel

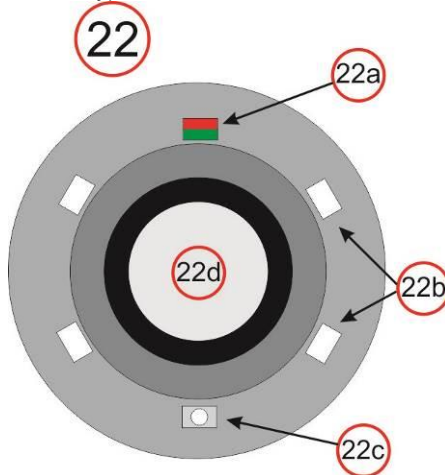


- 20. Mounting holes for holding the front panel. After installation close the top hole with a supplied plastic cover with Fermax logo. The bottom hole is covered with a supplied silver colour cover. Both covers and screws are always delivered as accessories with the doorphone.
- 21. Speaker.
- 22. Camera wide angle 120° with illumination white LEDs and an ambient light sensor for switching on the illumination LEDs.
- 23. Push buttons which always come soldered on the main board. Depending on the type of front housing you use them or do not use them (defined during the programming-mapping sequence of push buttons)
- 24. Name card, exchanging a name card is described later on. The name card is illuminated with white LEDs (the illumination can be deactivated)
- 25. Microphone



### 1.5.3 **Camera (22)**

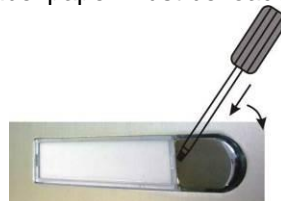
On the figure below and the previous figure above (22) – detailed description (valid for camera models only):



- 22a** Two-colour LED for status indication. Red=establishing a call, Green=active call, Orange=a switch is switched on (you need to set acoustic signalling of the switch)
- 22b** White LEDs for illumination of the space in front of the camera
- 22c** Sensor of ambient surrounding illumination for controlling of name cards illumination and camera illumination
- 22d** Objective of the camera. View angle is 120°, max. resolution 640x480.

### 1.5.4 **Replacement of name cards**

The name cards are removed from the front of the doorphone as shown on the figure below. Be careful when opening the front plastic cover to avoid damaging or scratching the front panel or the plastic cover of name cards. The name card cover is actually a tray where the label paper must be loaded.



### 1.5.5 **Power supply - clamp (10)**

**12V** power supply can be **direct (DC) or alternating (AC)**, it is independent on polarity, from 12V the max. consumption is 300mA.

The power supply can be used also for powering the electrical lock, then we recommend to use 12V/1A.

You can also use a **24V direct current (DC) power supply**. Usually it is used at installations where there is a power supply already, for example at attendance systems or at sliding gates. You **must not** use an alternating current (AC) power supply, you can use a **direct current (DC) power supply only**. It is independent on polarity.

### 1.5.6 **Micro SD card (4)**

The microSD card is used for saving user audio files. In the future it will be used for storing images, videos and audio files. Then the MicroSD card will be used as a recorder.

If use choose a user audio tone and the card is not inserted in the doorphone, then only the audio tones of the basic signalling will be used.



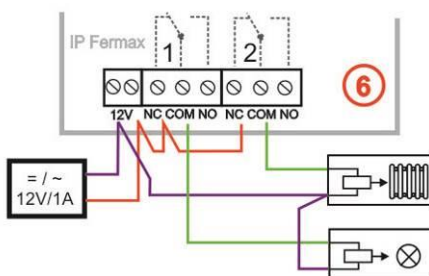
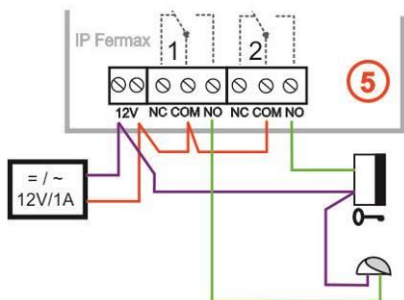
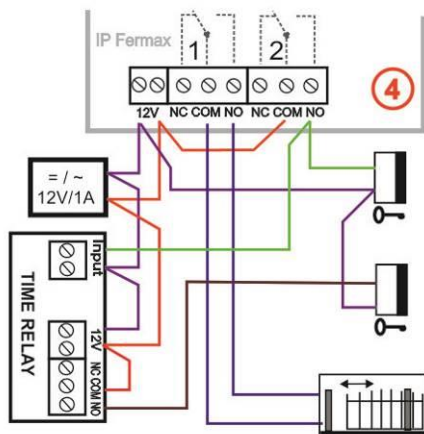
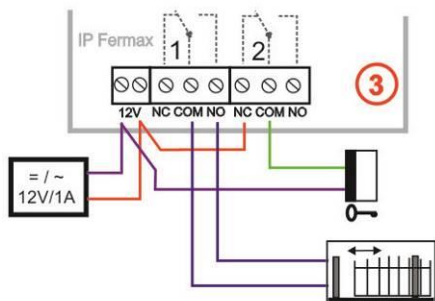
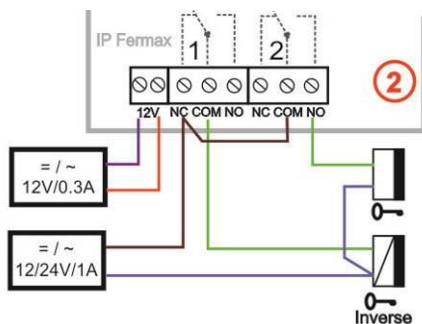
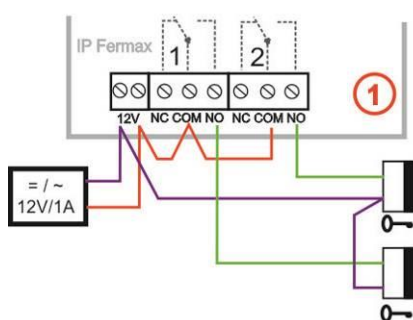
**Do not eject the SD card during operation of the doorphone!**

## 1.6 Connection of switches

**Examples of switches connection** is shown on the next page. There are just a few basic examples, but it gives you a good guidance how to connect individual circuits (red circle = example number).

1. Basic wiring - 2 electric locks and the possibility of controlling two doors independently (switches 1 and 2 are monostable) this scheme also applies to the gradual opening of the door. This connection is the most common, one common source powers the IP-Fermax doorphone and two electric locks. The current load of the power supply depends especially on the electric locks used. The standard lock has a current consumption of 0.6A - 1.0A, and it is also necessary to consider whether it is possible to switch on both switches of the electric locks simultaneously. If not, choose a 2A power supply source instead. If you use low consumption electrical locks, then 1A power supply source is fully compliant.
2. Two sources - the possibility to use independently two power supplies, one for the IP-Fermax doorphone and the other for electric locks. The electric lock 2 is inversely connected (fire escape door).
3. Combination of doors with electric lock and gates in fencing.
4. Extending the previous example to two doors with a gradual opening (this function is set in TimeRelay - external module)
5. Combination of electric lock and auxiliary bell. The auxiliary bell switch can be in the switching mode of the call (responds to all push buttons) or switching the switch from the selected push button, then the switch responds to only one selected push button.
6. Switching lighting (eg road to the building) by switch 1 (setting the switch from call to switch). Switch 2 - heating control according to the weekly schedule - the time profile table synchronizes the selected switch. Attention! A contactor must be used (the IP-Fermax doorphone **must not** switch 230V!).

The examples in the figures below are principal examples only.



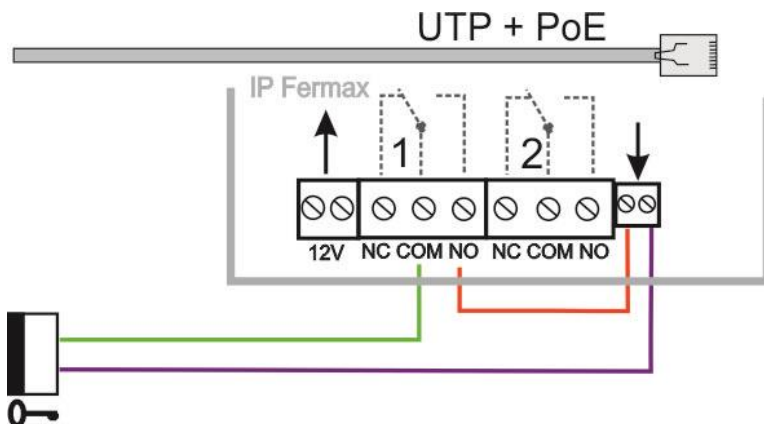
### 1.6.1 PoE power supply source

The IP-Fermax doorphone is equipped with a circuit for PoE powering over UTP cable. If you have a PoE power switch, or you own a PoE (a box of the size of the AC adapter plugged into the UTP cable - according to the IEEE802.3af standard), you no longer need a 12V power for the doorphone's function.

If you use an electric lock to open the door, you must use the power supply (only in the relay contact circuit) or use a low consumption electrical lock and then use the output terminal "12V output" (the terminal marked "12"). For PoE power supply source, there is 12V/300mA available.

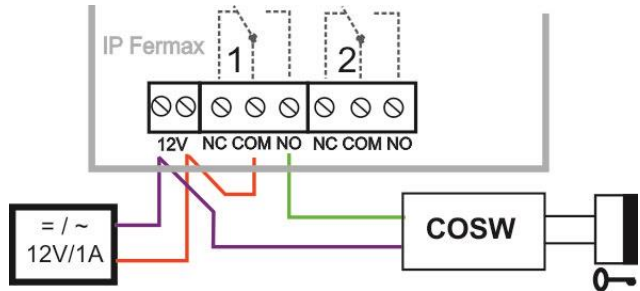
Attention, ensure that both electric locks are not be active at the same time.

This can be achieved, for example, by synchronizing the switches and setting the door's successive opening (the setting is described in the chapter on the setting of the switches – relays setting)



### 1.6.2 Code relay (COSW)

For the switch, the code relay function (**COSW-CodeSwitch**) is available. In particular, it serves to secure transmission of information on switching the electric lock. When using this function, it is not possible to activate this lock by attaching or disconnecting the voltage to the lock leads. Activation is only performed when the serial information transmitted between the IP-Fermax doorphone and the code relay board (COSW) is identical.



In the IP-Fermax doorphone you can set the Security code for the output to activate the COSW code relay.

The code information is 8 bits, but the code entry is 4 bits with 4-bit security, which is a total of 8 bits. Practically, this happens by activating the switch first by transmitting the serial code and if it agrees, the code relay will connect the electrical lock.

**!** The code relay can be connected in parallel and thus extend the number of switches, but you can never combine the electrical lock and the code relay in parallel !!!

### 1.6.3 Use of door sensors – exit button

**Door sensors** can be connected to the IP-Fermax doorphone to a maximum of two. It is used to retransmit information about the closed door. This information is displayed on the Home screen (under the camera image) and also transferred to “iBell office” sw applications. Another option is to use SNMP.

The door sensor is either a part of the electric lock, or it is a common magnetic contact used in the security technology. It is connected as an **NC** switch on the terminal block **(7)** - as well as the magnetic contact from the Alarm (Door Closed = Closed).

Inputs for door sensors can also be used as **exit buttons**. The IP-Fermax doorphone’s setting allows you to select which switch controls this input. The NO button is connected to the input and when you press the exit button, the switch is switched on in monostable mode for the switching time.

## 1.7 Numbering of push buttons

After connecting the expansion push button modules, you must program the push buttons numbering (to determine which push button has what number – you need to create a relation to the party number in the phone book).

This is done similarly to the VDS Fermax system.

On the basic side of the IP-Fermax doorphone (above the MicroSD card slot) there is a button (15).

How to assign numbers to the push buttons:

1. All expansion push button modules are connected, the IP-Fermax doorphone is switched on. Press the button (15) and hold it for 5 sec. (the IP-Fermax doorphones starts beeping quietly)
2. Now press the buttons of the whole assembly so that the first press = push button # 1, the second press = push button # 2 and so on until the last push button.
3. Also include the push buttons on the basic (voice) module in this process
4. Press the button (15) briefly to save the programming/mapping of push buttons.
5. The check is on the Current status page - the number of push buttons (buttons count) is the number of times you pressed the push button on the whole assembly.



The keypad is not included in the programming/mapping and nothing is pressed on the keypad. It is detected automatically.



If you want to omit some push button while programming, just press the same push button again. E.g. the push buttons sequence should be 1-2-4-6, then press the push button 1, the push button 2, the push button 3 and the push button 3 again = this is number 4), the push button 4 and the push button 4 again (that is number 6).

## 2 Service of IP-Fermax

---

### 2.1 Signalling overview

### 2.2 Overview of signalling

The IP-Fermax doorphone is signaling acoustic states that can occur during operation, additional signaling is via two-color LED (located above the camera). The acoustic signaling for each state listed in the table below can be turned off or the default beep tone is used or replaced by user sounds.

Status	Tone	LED
Start calling	Optional / user-programmable	red
End of call	Optional / user-programmable	goes out
Call is not possible (busy)	Optional / user-programmable	red
Confirmation of the code entry	Optional / user-programmable	green
End call alert	Optional / user-programmable	green
Switching on the relay switch	Optional / user-programmable	* red + green
Error	Optional / user-programmable	-
Pressing the push button	Optional / user-programmable	-
Establishing a connection	-	red
Connection is established - call	-	green
Service mode (start boot)		green
Start Linux		red
Start of rescue WEB		red blinks

\* - the indication is conditional upon switching on the acoustic signaling of the respective switch

### 2.3 Visitor at door

Visitor at door is person who wants enter inside the building.

#### 2.3.1 Push Button press – outgoing call

Outgoing call is call from the doorphone (started by the visitor). Then the doorphone dials and a phone is ringing inside the building.

The push buttons of the doorphone have name cards with names and functions of people inside the building. The visitor press appropriate push button and the doorphone starts calling immediately (in case the push button is not defined as the first digit of codelock) or there is some delay (a time period



between push buttons pressing) .The doorphone dials a preprogrammed number. Dialling the number is different according to settings in the phone book:

1. Phone book position for selected push button must be permitted
2. Must be fill min. 1 from 5 phone numbers (or IP addresses in P2P mode)
3. At filled phone number is active time plan in appropriate time or no plan is selected.

When is filled up more numbers then selection of phone number is up time plan and next are numbers dial in order (1 – 2 ... 5) or numbers might be dial simultaneously and which is picked up first it has the talk.

Both versions of dialling might be cominated. For example is possible call to 1. and 2. Phone number simultaneously. When call is not picked up until certain time then number 3 is dialled.

Repeated button press might have following functions:

- Nothing happen
- Dial again
- Call is ended

Since version 3.0.38 is in guard IP Fermax new property that upon arrival "SIP Ringing" or the "Session progress" will not pass audio, but lets local bell ringing. But the video link (if offered by the counterparty in the SDP). Thus, it is possible with a suitable videophone (eg. Grandstream GXV3275 - "Preview" button) to see who is standing at the door, and accordingly it let in the building or not, without having heard anything from IP Fermax.

### **2.3.2 Button press – code lock**

Door entry IP Fermax buttons have feature of code lock. By progressive buttons press you can activate appropriate relay. The codes for this feature are either shared by all subscribers (relays setting) as same as individual (each subscriber has in phone book own private access code).

Caution: code might be done from available buttons only (for example model IP IP Fermax has available 1 or 1 and 2)

When button number is first digit o any code then dialling from this button is delayed about "time between button press" for code evaluation.

It is also necessary mention feature relay closing by press of selected button (for example for function bell activation). This feature programmable in relays petting.

### **2.3.3 Call**

Door entry IP Fermax has adaptive ECHO canceller. The Echo dissappear usually within first 5 seconds of call. The call is then full duplex. The end of call happen:

- Called party hang up
- Call duration time is over (when is setup)
- By button press(when is setup)

## 2.4 Visitor inside building

By person inside building is person who is in communication with door entry IP Fermax.

### 2.4.1 *Outgoing call*

Outgoing call is call from door entry (start by visitor). After door entry dial is ringit phone inside the building. When call is picked up you can talk to visitor at door and by code dialling you can activate relay. Door entry sends 10sec before call end notification about time limit of call and by dial character (\* / #) you can prolong the call. By phone hang up the call is ended.



***All transmission ways of info about button press are available (for example code to activate relay) – either in “RTP channel – RFC2833” or in “SIP info” and “inband DTMF”.***

### 2.4.2 *Incoming call*

Incoming call is call to door entry (start by person inside building). After dial of extension number or IP adress where is connected door entry IP Fermax the door entry is ringing and after preprogrammed number of rings picks up the call. You can talk. Possibilities are the same as outgoing call (activate relay, prolong the call etc.).

## 2.5 Video

At models with camera is possible received video as follow:

- IP phone with LCD display
- PC – WEB browser
- PC with program iBell ([www.alphatechtechnologies.cz](http://www.alphatechtechnologies.cz))
- PC with general programm for video watching (for example VLC)
- Android device (smart phone, tablet) "iBell office" (Google Play)
- Apple device (smart phone, tablet) "iBell office" (Apple Play Store)

**Video formats:** JPG, MJPG, H.263, H.264

**Video for WEB:**

**Internet Explorer, Mozilla, Opera, Firefox...** - (set of JPG pictures - Port 80)  
it is used repeated http request „IPAddress/video.jpg“

**programm PopUp** ("iBell office") - (MJPEG stream - Port 80) is used http request „IPAddress/video.mjpg“ (sometimes is reload necessary to run). This video is more fluent and has less network strain.

**Stream video for IP phones:**

H.263 and H264 is established by IP Fermax door entry and IPvideo phone over SIP/SDP protocol on standard SIP port. The video (as same as sound) then runs by RTP protokol on ports agreed over SIP (usually 9078).

rtsp request „rtsp://IPAddress/video.264“

or rtsp request „rtsp://IPAddress/video.263

**Video parametres:**

JPG Pictures are created in IP modul and for all transmit protocols are the same. The Size (resolution) of video is selected in "Video setting" on WEB. Maximal resolution is defined by USB camera type and mostly is 640x480 Stream H.263 knows CIF resolution (352x288). It means bigger JPEG is cut and smaller framed.

Frequency (1-15 picture./sec) JPG Picture is selected in "Video setting" on WEB.

Frequency MJPG and Stream H.263 coming from camera. It is used every second and reset is between 7-15 pictures/sec. Higher resolution brings decrease of Pictures/ sec. (limited by processor efficiency)

**Ports:**

Port **80** for http (WEB pages even JPG / MJPG video on them)

Port **5060** for SIP

Ports RTP with oposite party communicates over SIP. Usually Port **7078** suggested for audio and Port **9078** for video

Port **554** video( H264 and H263) provided by door entry (server) protocol RTSP

## 3 *Parametres programming*

---

Parametres programming is performed by ordinary WEB browser.  
(Caution! version of IE V7 and lower are not supported).

### 3.1 WEB interface access

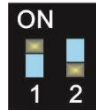
For successful display of WEB interface of IP Fermax door entry we go through some details.

**Field length**- names, titles, codes, passwords have fix length **40 characters**.  
- URL and etc. have max length **255 characters**

#### 3.1.1 *What you should know*

In doorphone IP Fermax is a double DIP switch. Individual switches should be in the positions shown.

- 1 – on
- 2 – off



Meaning of each switches:

1. Always position **on**, this switch is only used in the manufacture or repair service.
2. If the position **on** at power (or reset) so in doorphone is set the default IP address 192.168.1.250 and uses the default style. The name is *admin* and the password is *1234*. To see the video is the name *video* and password *1234* (if required). **The operating position is off.**

**Warning:** If you get into a situation that you do not know the IP address set in IP Fermax or have forgotten your password, so there is reason to use the **DIP2** switch, switch it to the **ON** position and restart IP Fermax. Then you change the settings eg. Passwords or network settings. Remember to switch DIP2 into operating position **DIP2 = off** and click save and restart. After rebooting, IP Fermax is now all set according to the changes.

You should also dedicate attention into which PC network you are connected. Default door entry IP address is 192.168.1.250.

When is your PC in network setup also on segment 192.168.1.xxx then might caused a problem in network just by same IP address etc. 192.168.1.250.

In this case we recommend temporarily disconnect device from network.

When your PC is setup to different network segment than 192.168.1.xxx two possibilities are available:

1. In PC you have system Windows 7 or 8, then you can setup „network setting“ – „Protocol IP version 4“ – „Property“ – specify“ and here add IP address in PC segment of door entry for example. 192.168.1.10

2. Generally in PC setup you program temporarily own IP address. In PC door entry segment for example 192.168.1.10. After change of door entry IP address you have return setting in PC back.

Then you can setup parameters of door entry including IP address and after restart of IP Fermax door entry you can login to door entry WEB page on new IP address.

### 3.1.2 Login

In your WEB browser write IP address of IP Fermax door entry in default it is **192.168.1.250**. you can see picture from camera as bellow – „home screen with video"




Under picture from camera (at models without camera is empty frame only) are on the left buttons **Stop** – to stop video and **Start** for run video again. On the right is description **Setup** – after click on it will be display request for login data.

Write username and password. Username is always „**admin**“ and password is „**1234**“ (adjustable in settings). (To see the video is the name „**video**“ and password „**1234**“ - if required).

You enter now to first setting page of door entry IP Fermax. On this page is display „Current status“. All necessary data about door entry status are here.

## 3.2 Current status

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Current status

Network setting

Basic settings

Extended settings

Service

Video camera

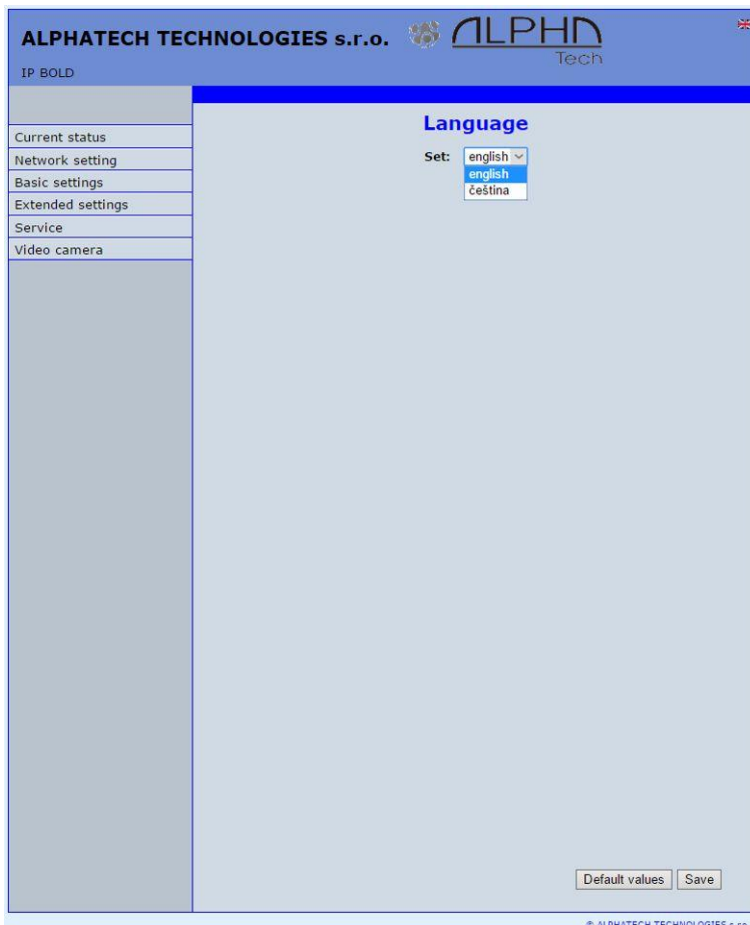
Status

Display name	IP DoorPhone
Firmware version	3.4.15
Buttons count	4
Keyboard connected	Yes
Camera connected	Yes
SD card size	
Card free space	
Customization	Alphatech Technologies
MAC address	00:56:34:00:14:38
Actual time	
Running time	0d 1h 49m
Setup via DHCP	No
IP address	192.168.1.250
Network mask	255.255.255.0
Network gateway	192.168.1.200
DNS server	78.41.19.2 78.41.19.3
SIP mode	SIP server
Registration status	Successful
SIP server	192.168.1.80
Call active	No
Call duration	0:00
Calls count	0
Calls missed	0

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Current status display basic data about IP Fermax door entry status. It displays Firmware version, door entry model, options connection (camera), SD card, MAC addresses, current time, network setting, door entry mode (P2P or SIP server), registration status and small calls statistic.

### 3.2.1 Language settings



After language selection please don't forget click on „Save changes“.


On the right top corner is display flag of current used language in whole WEB interface. After click on flag accessible language will be displayed. After language selection please don't forget click on „Save changes“ otherwise language selection wont be performed.

## 3.3 IP network setting

### 3.3.1 IP Network setting

Network settings you find in menu „Network setting“. You can select using of fix IP adress or dynamically assigned by using DHCP.

#### Configuration of fix IP adress:

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Current status

Network setting

Basic settings

Extended settings

Service

Video camera

Network

SIP parameters

Web server

### Network

**Setup via DHCP:** ☐

**IP address:**

**Network mask:**

**Network gateway:**

**DNS server 1:**

**DNS server 2:**

**NAT policy:**

**NAT address:**

**STUN address:**

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After performing of required changes please don't forget click on „Save and restart“.

**Setup via DHCP** - ON / OFF using DHCP assignment of IP addresses

**IP address, Network mask** – IP address setting, mask. In case of emergency please contact your network administrator

**Network gateway** – Router IP address (Internet connection)

**DNS server 1 and 2** – IP addresses of primary and secondary domain server

**NAT policy** - there is the choice of what kind of translate IP addresses used

**NAT address** - used for network traffic through the router (modifies transcription of the original or destination IP address)

**STUN address** - the IP address of the STUN server (see. page. 6)



## DHCP configuration:

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IP BOLD

Current status

Network setting

Network

SIP parameters

Web server

Basic settings

Extended settings

Service

Video camera

### Network

Setup via DHCP: ☒

IP address:

Network mask:

Network gateway:

DNS server 1:

DNS server 2:

NAT policy:

NAT address:

STUN address:

Default values Save and restart

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After performing of required changes please don't forget click on „Save and restart“.

**DHCP** – by mark of this checkbox as same as saving and restart will be assigned to door entry IP Fermax - IP address by DHCP.

**NAT policy** - there is the choice of what kind of translate IP addresses used

**NAT address** - used for network traffic through the router (modifies transcription of the original or destination IP address)


**STUN address** - the IP address of the STUN server (see. page. 6)

**Important:** if you use DHCP setting then DHCP assign IP address to door entry automatically and network administrator will assure your current IP address to be able watch video in WEB browser. Therefore this dynamically assigned IP address might be changed due for example power failure we recommend use dooe entry IP Fermax with fix IP adress.

### 3.3.2 SIP setting

The door entry IP Fermax might operates in 2 basic **SIP modes**. It is either **SIP server** – door entry registration is performed to SIP server and then you call to phone numbers assigned by SIP server or **Peer to Peer (P2P)** – door entry call exact IP adress and SIP server services can't be used.

#### Mode SIP server

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IP BOLD

**SIP parameters**

**SIP mode:** SIP server

**Display name:** IP DoorPhone

**SIP User Agent:** IP BOLD

**Account:** 250

**Auth. Id:** 250

**Password:** \*\*\*

**Send register:** ☒

**Registration server:** 192.168.1.80

**Port:** 5060

**Expiration [sec]:** 600

**Registrate after restart:** ☒

**SIP server:** 192.168.1.80

**Port:** 5060

**Outbound proxy:**

**Port:** 5060

**SIP Transport:** TCP & UDP

**Provisional code:** 180 Ringing

**Enable Symmetric RTP:** ☐

Registration successful

Default values Save

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After performing of required changes please don't forget click on „Save“.

**Display name** - name by which is device presented in network (for example will display as door entry name in programmes iBell, „iBell office“)

**SIP User Agent** – for easy inastallation is possible use the SIP user agent. The syntax of this string is not defined, but a common practise is „device name + version“.

**Account** - unit name in SIP protocol (usually line number or name without diacritics)

**Auth.ID** - name for SIP server registration

**Password** - password for SIP server registration

**Send register** – when registration is necessary (mostly yes) then this parameter must be used

**Registration server** - IP address or server name of registration server (in most systems and installations is enough to insert IP address). Registration is performed on this server. When you don't mark send registration then don't fill *Registration server and IP address of SIP server write to Proxy server*.

**Port** - SIP port is usually 5060 or 5061

**Expiration[sec]** – expiration of SIP server registration (period of registration request repeated sending)

**Register after restart** – when you mark then always during restart will be unregistered

**SIP server** - IP address or server name. Over this server connection is made. When is not filled then connection makes on *Registration server* (but you must mark *Send registration*)

**Port** - SIP port is usually 5060 or 5061

**Outbound proxy** - IP address or proxy name where is determined where will be sends door entry requests. If outbound proxy is setup will be INVITE request sends to outbound proxy address. Outbound proxy is used due NAT. When is not used don't fill up.

**Port** - SIP port is usually 5060 or 5061

**SIP Transport** - TCP or UDP, or automatic selection

**Provisional code** – determine if during ringing will be sends SIP code „180 Ringing“ or „183 Session progress“

**Enable symmetric RTP** - by mark is ON. It means that door entry will not sends by itself audio to RTP called party, but wait for called party to send RTP. After sends data to same address:port from which message arrived. It is trick used for bridging NAT

Registration status display on page as visible on picture.

## Peer to Peer mode (P2P)

The screenshot shows a web interface for ALPHATECH TECHNOLOGIES s.r.o. The top header includes the company name and logo. Below the header, there is a sidebar menu on the left with options: Current status, Network setting (selected), SIP parameters, Web server, Basic settings, Extended settings, Service, and Video camera. The main content area is titled 'SIP parameters' and contains various configuration fields. The 'SIP mode' is set to 'Peer-to-peer'. Other fields include 'Display name' (IP DoorPhone), 'SIP User Agent' (IP BOLD), 'Account' (250), 'Auth. Id', 'Password', 'Send register' (checkbox), 'Registration server', 'Port' (5060), 'Expiration [sec]' (600), 'Register after restart' (checkbox), 'SIP server', 'Port' (5060), 'Outbound proxy', 'Port' (5060), 'SIP Transport' (TCP & UDP), 'Provisional code' (180 Ringing), and 'Enable Symmetric RTP' (checkbox). At the bottom right, there are 'Default values' and 'Save' buttons. The footer of the interface shows the copyright notice: © ALPHATECH TECHNOLOGIES s.r.o.

SIP parameters	
SIP mode:	Peer-to-peer ▾
Display name:	IP DoorPhone
SIP User Agent:	IP BOLD
Account:	250
Auth. Id:	
Password:	
Send register:	<input type="checkbox"/>
Registration server:	
Port:	5060
Expiration [sec]:	600
Register after restart:	<input type="checkbox"/>
SIP server:	
Port:	5060
Outbound proxy:	
Port:	5060
SIP Transport:	TCP & UDP ▾
Provisional code:	180 Ringing ▾
Enable Symmetric RTP:	<input type="checkbox"/>

Default values Save

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After performing of changes please don't forget click on „Save changes“.

**Display name** – name by which is device presented in network (for example will display as door entry name in programmes iBell, “iBell office”)

**SIP User Agent** – for easy installation is possible use the SIP user agent. The syntax of this string is not defined, but a common practise is „device name + version“.

**Account** - unit name in SIP protocol (usually line number), it is recommended to keep filled.

**Outbound proxy** - IP adress or proxy name where is determine where will be sends door entry requests. If outbound proxy is setup will be INVITE regest sends to outbound proxy adress. Outbound proxy is used due NAT. When is not used dont fill up.

**Port** - SIP port is usually 5060 or 5061

**SIP Transport** - TCP or UDP, or automatic selection

**Provisional code** - determine if during ringing will be sends SIP code „180 Ringing“ or „183 Session progress“

**Enable symetric RTP** - by mark is ON. It means that door entry will not sends by itself audio to RTP called party, but wait for called party to send RTP. After sends data to same address:port from which message arrived. It is trick used for bridging NAT.



In active mode - P2P is possible to operate device, which require for their function registration at the SIP server. This option will use new SIP phones, which generally do not support P2P mode, as well as applications for iOS - Apple. The principle of setting SIP phones and iBell with IP Fermax:


1. Mode of phone is SIP server registration is IP address IP Fermax (registration or SIP server = IP address IP Fermax)
2. Name and password is the line number (we choose a numbering plan so that each number occurred in the network only once, then for each device, fill in name and password to register with this number).

Example:

- IP address of IP Fermax is 192.68.1.250 and the name (page SIP parameters) is **250**
- The IP address of SIP phone 1 is 192.168.1.200, fill in the registration here - SIP server = 192.168.1.250 and name = password = **230**
- The IP address of SIP phone 2 is 192.168.1.201, fill in the registration here - SIP server = 192.168.1.250 and name = password = **231**

Call to SIP Phone 1 is **230**, calls to SIP phone 2 is **231** and calls to IP Fermax is **250**

### 3.3.3 WEB server

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**Web server**

Web interface TCP port: 80  
Service password:   
Retype password:   
Video on start page: ☒  
Protect video by password: ☐  
Video password:

Default values Save and restart

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After performing of changes please don't forget click on „Save and restart“.

**WEB interface TCP port** - possibility of change usually TCP port 80 to other (security reasons)

**Service password / Retype password** – inserting of new access password (instead default password **1234**) – length max.40 characters (name for access is **admin**)

**Video on start page** – Video ON/OFF on home page of WEB interface (mainly from security reasons. When video is OFF it is accessible after login with password only).

**Protect video by password** – further protection is secure access by password to <http://ipaddress/video.jpeg> (camera picture). **CAUTION! this option caused non working video on SNOM phones !**

**Video password** – inserting of new video access password (instead default password **1234**) – length max.40 characters (name for video access is **video**)

**Enable telnet** – available only for special customization.

possibility ON / OFF access from telnet (name: root, pass: 8765). Use telnet is not recommended, in practice, this possibility has caused a lot of problems. Damage Doorphone IP Fermax unprofessional intervention via Telnet warranty will be void Doorphone IP Fermax.

## 3.4 Basic setting

In this part are setup user and most often changed parametres.

### 3.4.1 Phone book

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Number: 2

### Phonebook

Title: Mr. Brown  
Email: brown@email.com  
Enabled: ☒

1. call number: 180  
Timetable: None  
Calling: Group start

2. call number: 229  
Timetable: None  
Calling: With previous

3. call number: 210  
Timetable: None  
Calling: Group end

4. call number: 200  
Timetable: None  
Calling: Sequential

5. call number:   
Timetable: None  
Calling: Sequential

External code for relay 1: 1211  
External code for relay 2:   
External code for relay 3:   
External code for relay 4:

Default values Save

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After performing of changes please don't forget click on „Save“.

The phone book contents 999 subscribers. For first 200 subscribers agree subscriber number with button number. In this version of door entry – IP Fermax is max = 200 button. Therefore first 2 subscribers are most important.

**Position number in phone book is selected at top bar by click on appropriate numeral.** It is possible also listed by 10 (</>) or go to exact position (all by selection in first – highlighted – row).



Every position of phone book allows insert up to 5 phone numbers with possibility to join some of them (or all) into group and call group of phone numbers simultaneously.

**Title** – This text has informative character only. In case of display using will be name shown in list selection.

**Email** - to this email will be sent Info about missed calls with picture or video in case of model (C) or with records (in case of recorder activation). Necessary is setup Emailu – via follow.

**Enabled** – Item of phone book (also function of appropriate button) is working hen is permitted only (marked). It has a sense for pensions, hotels etc....)

**1. call number** – is phone number with highest priority. It is call as first (when is used progressive dial mode). 1. Phone number will be dialled with compliance to selected time plan only.

**Time table** – when is not selected then 1 number is allways active. Usage of 1 phone number might be limited by time plan.

**Calling** - allows create groups – via follow.

**2. call number** – is phone number which is dial as second (when is used progressive dial mode). 2nd phone number will be dialled with compliance to selected time plan and when is filled only.

**Time table** – when is not selected then 2 number is allways active. Usage of 2nd phone number might be limited by time plan

**Calling** - allows create groups – via follow.

**3. call number** – is phone number which is dial as thirth (when is used progressive dial mode). 3th phone number will be dialled with compliance to selected time plan and when is filled only.

**Time table** – when is not selected then 3th number is allways active. Usage of 3th phone number might be limited by time plan

**Calling** - allows create groups – via follow.

**4. call number** – is phone number which is dial as fourth (when is used progressive dial mode). 4th phone number will be dialled with compliance to selected time plan and when is filled only.

**Time table** – when is not selected then 4th number is allways active. Usage of 4th phone number might be limited by time plan

**Calling** - allows create groups – via follow.

**5. call number-** is phone number which is dial as fifth (when is used progressive dial mode). 5th phone number will be dialled with compliance to selected time plan and when is filled only.

**Time table** – when is not selected then 5th number is allways active. Usage of 5th phone number might be limited by time plan

**Calling** - allows create groups – via follow.

**External code for relay 1,2,3,4** – here insert private codes for code lock. The code lock might be completed from door entry buttons (mean

according buttons 1 – 2 in this model). Each subscriber has one code for every relay.

### **Calling – description**

The group means that 2 or more phone numbers create a group and those numbers are dialled simultaneously (all are ringing together). Who from dialled subscribers pick up first can talk and ring to other subscribers in group. Will be ended.

**Individually** – this phone number is dialled individually. 42uet not in group with any other number.

**Group start** – first phone number in group call

**In group with previous** – phone number in group. 42uet not first and also not last.


**Group end** – phone number is last from the group

By this setting you can create for every subscriber up to 2 groups or groups with 5 numbers and make groups combination with individual phone numbers.

EXAMPLE:      first phone number rings to operator – „Individually“  
                         Second phone number is „Group start“  
                         Third and fourth phone number is „in group with previous“  
                         Fifth phone number is „Group end“

– Those four phone numbers ringing in office together where are picked up by other subscribers when operator is busy. In offices phones start ringing after adjustable time.

## 3.4.2 Relays

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IP BOLD

Number: 2 3 4

Current status  
 Network setting  
**Basic settings**  
 Phonebook  
 Relay  
 Door sensors  
 Setting SNMP  
 Timetable  
 Time setting  
 E-mail  
 Extended settings  
 Service  
 Video camera

### Relay

**Enabled:** ☒  
**Timetable:** None  
**Relay mode:** Monostable  
**Delay time [sec]:** 0  
**Run time [sec]:** 5  
**Source:**   
**Synchronize delay [sec]:** 0  
**Active on call:** Ignore  
**Acoustic tone:** None  
**Active by HTTP:** ☒  
**Security output code:**   
**Direct ON button:**   
**RC command at relay ON:**   
**RC command at relay OFF:**

Code	Source	On	Off	Timetable
1. 55	DTMF	On	Off	None
2. 11221	Button	On	Off	1 Open time
3.	Button	Off	Off	None
4.	Button	Off	Off	None
5.	Button	Off	Off	None
6.	Button	Off	Off	None
7.	Button	Off	Off	None
8.	Button	Off	Off	None
9.	Button	Off	Off	None
10.	Button	Off	Off	None

Default values
 Save

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After performing of changes please don't forget click on „Save“.

In relays setting are accessible 4 relays. The relays 1 and 2 is output of relays contacts directly in IP Fermax door entry. Next 2 relays (3 and 4) is possible use for remote relays (IP relays via follow) or as virtual relay usefull for synchronization to allows creation of more difficult functions of relays. **The relay selection is perform by click to relay number in top highlighted row** – similiary as in phone book.

**Enabled** – relay function might be eliminated. 43uet his will be eliminated synchronization signal for other relays. Meaning is for example when you want temporarily prevent certain door opening. Then instead of all codes cancellation and their repeated programming simply prohibit this relay. After time out you can easily return relay with all codes to original

function. When such status repeats regularly (for example school) you can use time plan.

**Time table** – defines time period when relay is working and when not. For example is shop operation time, school, etc..

**Relay mode -**

**monostable** – by code is closed and after preprogrammed timeout is open. Using for electrical lock switching, sliding gates control, button press signalling etc... (for control codes setting you must insert „ON” (via follow)

**bistable** – by code is closed and stay closed till moment of open by other code. For this purpose is beside control codes possibility select „ON” for closing and „OFF” for open. (via follow)

**Delay time** – is time, between closing code evaluation and relay closing. It has no influence for open code which is performed immediately. Closing time is calculated from real relay closing. Using is for example: *progressive door opening, we setup same closing code for both relays, by this delay is monitored walking time from first to second doors.* This feature is adjustable by synchronization as well. By synchronization delay are available individual codes for each doors control.

**Run time** – relay closing time in monostable mode (time of electrical lock opening)

**Source -**

Synchronize from time table - it is selected time plan for relay and 2 options are available:

Monostable, then allways when setup time period in time plan is suitable and time plan is active is perform closing for preprogrammed closing time.

Bistable, then allways when setup time period in time plan is suitable and time plan is active the relay is closed and out of those conditions is open.

Synchronize with relay 1 – 4 – relay closing starts closing of the same or other relay. Example for usage is sliding gate control, where by partly opening you can create passage – door substitution. For this mode relay must close for 1 sec in 2 times in sequence. Where period between closing is created passage. (for example 6sec). *The setting make that for relay 1 select monostable mode with time closing 1 sec, synchronization with relay 1 and synchronization delay 7 sec.* In case you need setup situation that for one code (55) relay 1 close 2 pulses in sequence – passage creation and by second code (56) gate will be closed then use not connected relay 4 for synchronization. *Setting of relay 1 is monostable, closing time 1 sec, synchronization with relay 4 and synchronization delay 7 sec. Codes for relay 1 closing are 55 and 56. The relay 4 we setup as monostable, closing time 1 sec, closing code 55.*

By synchronization you can create different closing combination.

**Synchronize delay** – time between synchronization start and its evaluation.

Usage for example in more relays closing combination for one code

**Active on call** – options are

none (calling has no influence for relay status)

incoming call – relay closed during incoming call. The monostable for preprogrammed time. The bistable permanently for all call duration.

outgoing call – relay closed during outgoing call. The monostable for preprogrammed time. The bistable permanently for all call duration.

Both call – relay closed during every call. The monostable for preprogrammed time. The bistable permanently for all call duration.

**Acoustic tone** – In case of need you can simulate relay closing by sound signal.

This feature is usefull mainly in monostable mode in case of PoE feeding of low consumption electrical lock by DC power supply. This sound simulates typical buzzing of electrical lock. Further option is record voice message to SD card for blind people with information about electrical lock opening.

This option has yet another hidden meaning, the LED on the front panel when you turn the acoustic signal indicates the switch is activated lights red + green.

**Activate by protocol HTTP** – relay status is possible change by sending HTTP request (GET request) to IP adress of door entry. To get working this feature you must permit by parametr relay control by HTTP. Request for door entry must be in following format (you can test by variol web browser):

command relay switch:

IPAddress / relay\_control? R = on where r = number of relays 1-4

E.g. [http://192.168.1.250/relay\\_control?1=on](http://192.168.1.250/relay_control?1=on) - switches on relay 1 (doorphone to the default IP address)

command to releasing relay:

IPAddress / relay\_control? R = off where r = number of relays 1-4

E.g. [http://192.168.1.250/relay\\_control?1=off](http://192.168.1.250/relay_control?1=off) - switches off relay 1 (doorphone to the default IP address). Releasing the relay is important in the bistable switch mode.

**Security output code** – relay output is close/open in default. This static status is dangerous in case of unauthorised enter for example by door entry damaged and short circuit wires of power supply and electrical lock. Defence is using module COSW which you connect to electrical lock wires – closest to electrical lock. For relay closing is sends in such connection pulses set and when setup code at COSW match with code of this parametr relay is closed.

**Caution – do not fill code when electrical lock without COSW is connected. It can damage relay in door entry IP Fermax!**

**Direct ON button** – when you fill up button number then this number will work as **departure button** only. Eventually might be used relay output for

control of mechanical bell. During button press is relay activated in monostable mode for closing time. If in the phonebook filled for this button telephone number then be combined with relay closing with calling telephone number.

**RC command at relay ON** – Enable setup command sends to external device (for example WEB relay) during relay closing. Command is sending by protokol HTTP (GET request). The command must be in format [http://ip\\_address/command](http://ip_address/command). Specific command, refer to the manufacturer's documentation WEB relay.

**RC command at relay OFF-** Enable setup command sends to external device (for example WEB relay) during relay opening. Command is sending by protocol HTTP (GET request). The command must be in format [http://ip\\_address/command](http://ip_address/command). Specific command, refer to the manufacturer's documentation WEB relay.

**Codes for relay control** – here is 10 basic central codes for relay. Moreover every subscriber in phone book has his own private code for relay control (code keylock from buttons). Those 10 codes might be assigned as codes from buttons (code keylock) or by phone (DTMF). Further is possible assign feature relay closing/opening (ON/OFF). The Code validity is discriminated by time according selected time plan.

**Examples:**

1. Closing switch 1 from the phone (DTMF) – on the picture is filled with code 55 without any time limit, closing the switch is activated by dialing 55 from phone
2. Closing switch 1 from buttons – on the picture is filled with code 11221 with time limitation (open time), closing the switch is activated by pressing a sequence of buttons 11221 on IP Ferman

### 3.4.3 Door sensors

Door sensors are special functions of door entry IP Ferman which is optional. It is HW option which is different according button number of each model – inputs for door sensors. There is created information in the system about close/open the door.


After performing of changes please don't forget click on „Save“.

**Input door sensor 1 / 2** Door sensor or disable – by permission is activated transmission of Info about open / close the door. This Info is display ether on this page – **Now is** – or on home page with video(under video frame will be display frames with this Info. Further is transmitted to programms “iBell office” and iBell and as last is possible use it in SNMP.

**Input door sensor 1 / 2** Exit button – relay 1-4 – because the use of door sensors not found so wide usage, so these can be used as two inputs to the function Exit button. When the input connections (short) so activates the corresponding relay (switch monostabil) .

### 3.4.4 **Setting SNMP**

Remote management – SNMP is internet protokol designed for network management. It allows progressive data collection for network management purposes and its following evaluation.

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**Setting SNMP**

Enable SNMP: ☒

Community: alphatechtechnologies

Admin address: 192.168.1.22

Variables in MIB tree:

Startup: 0.1.2.3.1.0

Open sensor: 0.1.2.3.2.0

Sensor open timeout: 60

Open sensor for too long: 0.1.2.3.2.1

Entered invalid keycode: 0.1.2.3.3.1

Open relay: 0.1.2.3.1.1

Default values Save

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After performing of changes please don't forget click on „Save“.

**Enable SNMP** – by mark you activate remote management (SNMP)

**Community** – here is necessary select exact user of SNMP

**Admin address** – setup IP adress or domain name of server where are sent information according defined setting



**Variables in MIB tree** – is designed for identification of none sense numeral chain OID OID is numeral identifier which definitely identify every value in SNMP communication. OID is created by number sequence separand by dot. Every dot represent exact level of tree structure into which are OID maped. The numeral identification in range of each undertree is not Unixe that is why OID is sent allways as whole unit.

3.4.5 *Time profiles*

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Number: 1 2 3 4 5 6 7 8 9 10

Current status

Network setting

Basic settings

Extended settings

Service

Video camera

Phonebook

Relay

Door sensors

Setting SNMP

Timetable

Time setting

E-mail

Timetable

Timetable name:

	Active	Interval 1	Interval 2	Interval 3
Sun:	<input type="button" value="No"/>			
Mon:	<input type="button" value="Yes"/>	8:00 – 16:00		
Tue:	<input type="button" value="Yes"/>	8:00 – 16:00		
Wed:	<input type="button" value="Yes"/>	8:00 – 16:00		
Thu:	<input type="button" value="Yes"/>	8:00 – 18:00		
Fri:	<input type="button" value="Yes"/>	8:00 – 14:00		
Sat:	<input type="button" value="No"/>			

Code for activation:   
Code for deactivation:

Active:

Default values

Save

After performing of changes please don't forget click on „Save“.

In time profiles setting is available 10 profiles. **Profile selection is perform by click in top highlighted row** – similiary as in phone book.

**Timetable name** – for easy orientation you can named every profile.

**Period setting table** – profile is active when current time match with setup periods. Every day might have up to 3 active periods. Further is


possible deactivate whole day (first item on the row select „Active“ – Yes/No) . In example on the picture it is Saturday or whole day setup on active – in example i tis sunday. To use correctly this feature is necessary to setup correct time in the unit (via Date and time setting)

**Code for activation / deactivation**– immediate switching status profile by using DTMF. If you switch the time profile, then change it takes to meet the closest in time profile changes (according to the times in the table) or switch to another state using DTMF.

**Active** – display current profile status

**Switch** – by click you change profile status

### 3.4.6 *Date and time setting*

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**Time setting**

Time zone:

Network time server:

Daylight saving time:

Actual time: 14:31

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After performing of changes please don't forget click on „Save“.

**Time zone** – selection of installation time zone

**Network time server** – IP address or domain name of NTP server. When you don't know then by inserted \* will IP Fermax find NTP server automatically according own selection. Condition is setup in network setting start gate and DNS.

**Daylight saving time** – permission to switch daylight time

**Actual time**– for control is display present time in IP Fermax

### 3.4.7 E-mail

When you want inform subscriber about missed calls from door entry you can setup IP Fermax to sent out email after every missed call. You can setup own subject and text of email. When you have door entry with camera you can automatically add to email one or more pictures from camera. ( Pictures are taken during ringing)

Door entry sends emails to all subscribers who have in phone book preprogrammed valid email adress. When parametr E-mail in phone book is not filled then emails are sent to preprogrammed default email adress.

The screenshot shows the 'E-mail' configuration page of the IP Fermax interface. The header includes 'ALPHATECH TECHNOLOGIES s.r.o.' and 'ALPHATECH Tech'. A left sidebar contains a menu with options like 'Aktuální stav', 'Nastavení sítě', 'Základní nastavení', 'Telefonní seznam', 'Spínače', 'Dveřní snímače', 'Nastavení SNMP', 'Časové profily', 'Datum a čas', 'E-mail', 'Rozšířené nastavení', 'Servis', and 'Video kamera'. The 'E-mail' section is active, showing various configuration fields. A 'Povolit SMTP službu:' checkbox is checked. Fields for 'SMTP server (adresa):', 'Port SMTP serveru:', 'Přihlašovací jméno:', 'Přihlašovací heslo:', 'E-mail odesílatele:', 'Výchozí E-mail:', 'Doručit do [min]:', 'Přiložit obrázky:', 'Počet obrázků ve zprávě:', 'Interval obrázků [sec]:', and 'Předmět zprávy:' are present. A text area for 'Obsah zprávy:' contains a template with variables like \$Device\$, \$Datum\$, \$Time\$, \$User\$, \$DialNumber\$, and \$\$. A 'Poslat kontrolní zprávu' button is at the bottom. A footer shows 'Výrobní hodnoty' and 'Uložit' buttons, and a copyright notice for ALPHATECH TECHNOLOGIES s.r.o.

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**E-mail**

Povolit SMTP službu: ☒

SMTP server (adresa): smtp.alphatechtechnologies.cz

Port SMTP serveru: 25

Přihlašovací jméno: xxxxx

Přihlašovací heslo: .....

E-mail odesílatele: jelinek@alphatechtechnologies.cz

Výchozí E-mail: jelinek@alphatechtechnologies.cz

Doručit do [min]: 30

Přiložit obrázky: ☒

Počet obrázků ve zprávě: 10

Interval obrázků [sec]: 5

Předmět zprávy: Pokus

Obsah zprávy:

```
$Device$ = identifikace  
vrátého  
$Datum$ = aktuální datum  
$Time$ = aktuální čas  
$User$ = jméno volaného  
uživatele  
$DialNumber$ = volané  
telefonní číslo
```

Poslat kontrolní zprávu

Výrobní hodnoty Uložit

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After performing of changes please don't forget click on „Save“.

**Enable** – it activates email sending

**SMTP server (adress)** - SMTP server adress where emails will be sent

**SMTP port** – adjust in case of none standard SMTP server setting only. SMTP port is setup usually on value 25, but better is use port 587.

SMTP, there are three systems:

- Port 25 not allow encrypted - it is marked as obsolete, insufficient safety
- Port 465, not a domain hosting - is labeled as not recommended at
- Port **587**, has no maladies previous two, is currently the only **recommended variant**

**SMTP account** – when SMTP server requires authorization then must be in this field mentioned name for registration to server. In opposite case leave field empty.

**SMTP password** – password for registration to SMTP server.

**Message from**– sender e-mail mentioned in sent email.

**Default message to** – door entry send emails to adress mentioned in phone book at appropriate subscriber. When you leave this field empty then email is sent to default email which you setup in this field. When receiver is not mentioned in phone book as same as default email field the email is not sent. This e-mail is designed also for function control – **Send control message** – when you want verify correct functionality of emails sending then this control message is sent to this email.

**Send timeout** – Setup max time for which door entry try to deliver email to inaccessible SMTP server

**Attach pictures** – enable send attachment with one or more Picture taken during ringing.

**Pictures count** – setup Pictures number which will be attached to email.

**Picture interval** – setup time between each pictures

**Message subject** – setup subject of sending email message

**Message body** – enable correct contents of sending message. You can insert to text special alternative symbols for user name, date and time for door entry identification. Those alternative symbols will be substitute by actual value before email sending. Via follow table of alternative symbols:

\$Device\$ = door entry identification

\$Date\$ = current date

\$Time\$ = current time

\$User\$ = name of dialled subscriber

\$DialNumber\$ = dialled phone number

**Send test message** – when you want verify correct functionality of email sending then control message will be sent to default email

## 3.5 Extended setting

This part is designed for system setting which are done once during installation or when are problems with device kompatibility.

### 3.5.1 DoorPhone

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**DoorPhone**

Ringing timeout [sec]:	10
Maximum call duration [sec]:	120
Prolongation key:	* - Asterisk ▾
Ringing cycles count:	1
Same key pressed again:	Cancel call ▾
Active button by HTTP:	<input type="checkbox"/>
Dialing timeout [sec]:	2
DTMF dialing timeout [sec]:	2
Keyboard mode:	Choice number from memory ▾
Camera light:	During a night call ▾
Light intensity [%]:	60
Labels light:	At night ▾
Light intensity [%]:	40
Daylight lower threshold:	250
Daylight upper threshold:	300
IP VarioBell:	
Expansion buttons count:	5
Keyboard connected:	<input checked="" type="checkbox"/>

Default values Save

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After performing of changes please don't forget click on „Save“.

**Ringing timeout** – time for which is ringing. When is setup more numbers as same as progressive ringing then after this time ringing is ended on first phone number (IP address in P2P) and starts ringing on second. It is time until which subscriber must pick up. When is not next number to call then email is sent either to email adress mentioned in phone book or to default email (E-mail setting). Setting range is 5 to 300sec (6min.) caution: it might happen that ringing time will not be limited but it is limited by time parametres of SIP protocol and it is usually 2-5min

(according to SIP device settings). You can record messages to SD card during this time and simultaneously send email.

**Maximum call duration** – when call is picked up timer for call duration limit is activated. When you insert empty, then there is no limit. The 10sec before call end you hear tone after which you can dial character for call prolongation and by this prolong the call about same time period.

**Prolongation key** – options are \* or # and usage is described in „Maximal call duration”

**Ringing cycles count**– this option enables repeating of call (or progressive call). In phone book is for example filled first and second phone number and not create group. When come condition for first number: - ringing time is out

- phone number is busy
- subscriber is not reachable / registered in network

Then second number is dialled. When the same conditions come true and ringing cycles are set to 2 the whole cycle is repeated one more time.

**Same key pressed again** – when you press again the same button then you setup door entry behaviour. Options are:

- call is hang up
- call is repeated
- nothing happens

**Active button by HTTP** – if checked, so is possible use http request for remote activation button (like as press the button). This feature is for easy check the installation IP Fermax.

**Example:**

[http://IPaddress/button\\_control?btn=1](http://IPaddress/button_control?btn=1) - remote activate button 1

[http://IPaddress/button\\_control?btn=27](http://IPaddress/button_control?btn=27) - remote activate button 27


**Dialling timeout** – this time concerns buttons (keypad) and it is deciding for correct code inserting. When space between button press is longer than this time the code is not correctly evaluated. Situation:

- code keylock provides correct code evaluation
- number dial from keypad – dial end resolution

This time simultaneously prolong dial time at buttons which are initial numbers of codes.

**DTMF dialling timeout** – this time concerns incoming calls from telephones and it is deciding for correct code inserting. The principle is the same as previous parameter but it concerns codes from telephone.

**Keyboard mode** – models TK only – **memory number dial** means that you press 1-3 digit code on keypad which determined position in phone book (1-999). The door entry process the call same way as you pressed button on door entry (1-999). **Direct phone numbers dial** means that you dial numbers by keypad as on ordinary phone.

When you have in numbers dial space longer than **maximal number inserting time** then door entry calls. When you want in mode P2P call to IP address then „.” in IP address is substitute by  .

**Camera light** – wideangle camera has possibility of extra lighting when light conditions are not acceptable. The lighting provils by white LEDs (unfortunately infra LED cant be used but advantage is fully colour picture). The door entry has dark sensor and you have following options of lighting:

- OFF, LEDs will never light
- during conversation, LEDs are allways lighting during call independently on surrounding light conditions
- in the night, LEDs are lighting according surrounding light conditions independently on call
- during night call, Led svítí pouze při hovoru a podle okolního osvětlení

**Light intensity** – here you setup LEDs light intensity

**Labels light** – name card might be backlighted by 3 ways:

- OFF, name cards will never be back lighted
- in the night , backlighting depends on surrounding light
- name card is permanently back lighted

**Light intensity** - here you setup backlight intensity

**Daylight lower threshold** – settings sensitivity ambient light sensor, the lower limit of the window comparator (range 1-1021)

**Daylight upper threshold** - setting sensitivity ambient light sensor, the upper limit of window comparator (range 1-1021)

**ATTENTION** The lower limit must always be less than the upper limit, as the difference between the two values is the hysteresis (recommended to maintain approximately 50)


## **IP Fermax**

**Počet rozšiřujících tlačítek** – zde se zadává počet tlačítek rozšiřujících modulů. Toto číslo je součet tlačítek připojených na základní modul. Základní modul má vždy 2 tlačítka 1 a 2 (i když přední panel má např. pouze jedno tlačítko). První rozšiřující modul začíná vždy tlačítkem 3. Pokud připojíte např. dva moduly tlačítek po 10 tlačítkách, tak do tohoto pole zadáte 20. V telefonním seznamu se vytvoří 22 položek, protože jsou 2 tlačítka na základním modulu + 20 = 22.

**Klávesnice připojena** – zde je nutno zaškrtnout v případě připojení klávesnice. Nezáleží na pořadí modulu. Po zaškrtnutí se v telefonním seznamu vytvoří maximum (999) položek pro využití adresování položek telefonního seznamu z klávesnice.



## 3.5.2 Audio setting

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**Audio**

Speaker volume: 0 dB ▾  
Microphone gain: 0 dB ▾

Echo limiter threshold: 25  
Echo limiter attenuation: -36 dB ▾  
Echo limiter samples: 2000

Acoustic tone on button pressed: User defined ▾  
Acoustic tone on call start: Default ▾  
Acoustic tone on remote ringing: Default ▾  
Acoustic tone before call end: Default ▾  
Acoustic tone on call end: Default ▾  
Acoustic tone on error: Default ▾  
Acoustic tone on remote busy: Default ▾  
Acoustic tone on unknown number: Default ▾  
Acoustic tone on valid code entry: Default ▾  
Acoustic tones volume: 0 dB ▾  
Relay running tone volume: 0 dB ▾

Default values Save

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After performing of changes please don't forget click on „Save“.

**Speaker volume + Microphone gain** – amplification setting


**ECHO limiter** – it is designed for Echo cancellation which is created by distortion of loud signal. During standard door entry call is working automatic adaptive echo canceller which cancel the echo after cca 3 seconds of talk and call is full duplex. The setting is : High intensity signals coming from phone to speaker of door entry are distorted and automatic echo canceller cant process them. This level of **threshold** you setup (in %). How much should be reduced signal returning through microphone input is adjusted by **attenuation**. Delay of returning signal is adjustable by **samples** amount.

**Tone** – here you select acoustical signalling of different door entry status.  
Options are: - None, this status will not be signalling

- default, simple signalling in default setting
- user, this is recorded signalling by user ( SD card) -via. Service

**Volume** – loudness signalling adjustment

### 3.5.3 *Audio codecs*

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**Audio codecs**

Priority 1: G711μ

Priority 2: G711a

Priority 3: .....

Priority 4: .....

Priority 5: .....

Jitter compensation [msec]: 100

Default values Save

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After performing of changes please don't forget click on „Save“.

**Priority** – setting of codecs priority for usage. Some audio codecs requires payable license (for example G729) – codec permission you perform in Servis – license management.

**Jitter compensation** - jitter means fluctuation of packet delay during network running

### 3.5.4 Video setting

ALPHATECH TECHNOLOGIES s.r.o. ALPHATECH Tech

IP BOLD

Current status

Network setting

Basic settings

Extended settings

- DoorPhone
- Audio
- Audio codecs
- Video
- Video codecs
- Streaming

Service

Video camera

### Video

Image size: 320 x 240

Quality: Optimal

Brightness:

Contrast:

Colour:

Hue:

Auto white balance:

Gamma:

Power line frequency: 50 Hz

White balance:

Sharpness:

Auto exposure: Software Mode

Exposure:

Default values Save

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After performing of changes please don't forget click on „Save“.

**Image size**— image size selection. Stream H.263 knows just CIF resolution (352x288) so bigger image is cut and smaller image is framed

**Images per second** – this setting concern mainly image transmission to WEB browser. For H.263(4) is flow control flexibly according processor and network workload and it is in range 5-15 pictures/sec. Maximal flow is possible rejected by choice Low – Optimal – Full.

**Further setting** is standard image parametres petting and reset is immediately visible in Windows screen.

**Auto exposure** - a choice between three balancing exposure image.

1. Manual mode – you set the exposure manually using the slider Exposure at the bottom

2. Aperture priority mode – automatic exposure is adjusted by the camera module
3. Software mode – exposure calculates and sets the software in IP Fermax



Before adjusting image parameters, it is recommended to use the first Default values..

### **3.5.5 *Video watching (PopUp program)***

The door entry video records by USB WEB camera. The camera image sends either like JPEG pictures set to WEB browser (first page on door entry IP adress) or door entry sends stream video in coding H.263 and H.264. This streaming video you can watch for example on IP phone with LCD display.

Further very popular video watching is using PopUp program iBell for Windows. This program including user guide you can download for free on [www.alphatechtechnologies.cz](http://www.alphatechtechnologies.cz) .

For Android operating system you can download programm “iBell office” on Google Play for free.

For iOS (Apple) operating system you can download programm “iBell office” on AppleStore for free.

### 3.5.6 Video codecs

The screenshot shows a web interface for ALPHATECH TECHNOLOGIES s.r.o. The header includes the company name, logo, and 'ALPHD Tech' branding. A sidebar on the left contains a menu with options: IP BOLD, Current status, Network setting, Basic settings, Extended settings (with sub-items: DoorPhone, Audio, Audio codecs, Video, Video codecs, Streaming), Service, and Video camera. The main content area is titled 'Video codecs' and contains the following settings:

- Video codec priority 1: H263 (dropdown)
- Video codec priority 2: H264 (dropdown)
- Yealink phone compatibility: ☐
- Snom phone compatibility: ☐

At the bottom right of the main area are buttons for 'Default values' and 'Save'. The footer of the interface reads '© ALPHATECH TECHNOLOGIES s.r.o.'.

After changes performing please don't forget click on „Save“.

**Priority** – setting of codecs priority for usage .

**Compatibility** – Due some of VOIP phones producers specialities you have to use in certain cases extra setting:

Yealink – phonesYealink

SNOM – it is script sending for showing JPEG video. It is unique for SNOM phones

### 3.5.7 Streaming

ALPHATECH TECHNOLOGIES s.r.o. ALPHD Tech

IP BOLD

Current status

Network setting

Basic settings

Extended settings

- DoorPhone
- Audio
- Audio codecs
- Video
- Video codecs
- Streaming

Service

Video camera

### Streaming

Enable streaming: ☒

Permitted client:

Stream media:

Multicast address:

JPEG image quality:

Default values Save

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After changes performing please don't forget click on „Save“.

**Enable streaming** – permitted / prohibited to provide video (H.263 and H264) by door entry IP Fermax (server) protocol RTSP on port 554. To receive such video you need some standard stream video players (IP TV or for example Grandstream, MPlayer, VLC etc...). This video running permanently. It is not depending on calls.

**Permitted client** – when is not filled up then video might be watch by anybody. When is filled then video is limited just for this IP address

**Stream media** – selection of what will be transmitted from RTSP server:

- video
- audio
- video and audio (now not implemented, we prepare)

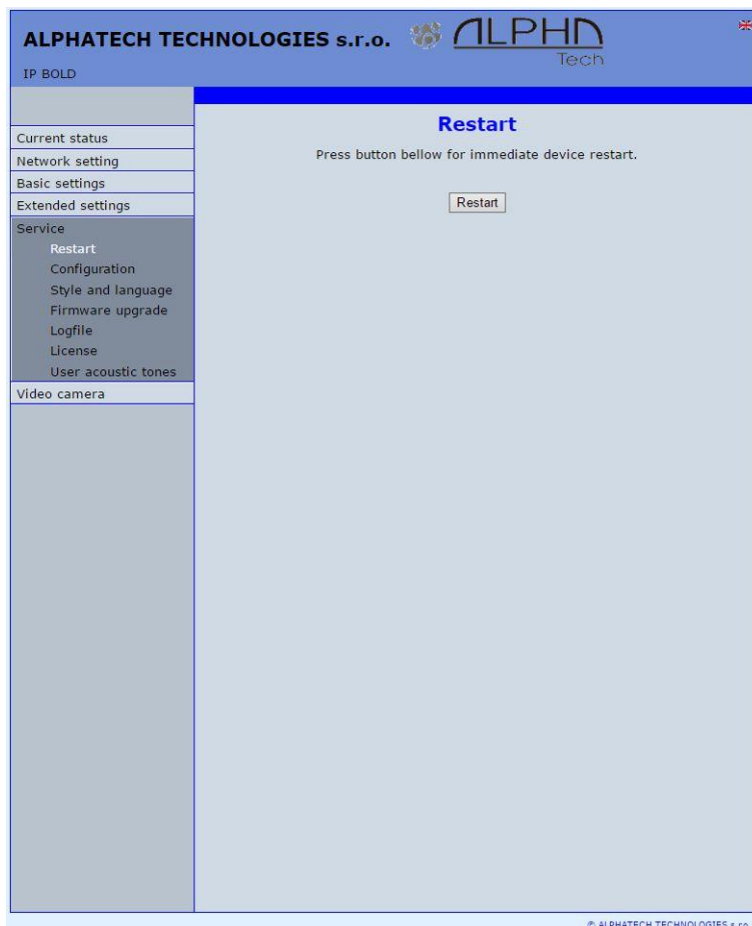
**Multicast address** – by inserting IP address you permit sending RTP packets to selected multicasting address.

**JPEG image quality** – you insert percentage of video coding quality

## 3.6 Service

This part contents service functions.

### 3.6.1 Restart



By click on „Restart“ button you make door entry reset.



### 3.6.2 Configuration

The screenshot shows the configuration page of the IP BOLD device. The header includes the company name 'ALPHATECH TECHNOLOGIES s.r.o.', a logo, and the 'ALPHD Tech' branding. A sidebar on the left contains a menu with options: 'Current status', 'Network setting', 'Basic settings', 'Extended settings', 'Service' (with sub-items: 'Restart', 'Configuration', 'Style and language', 'Firmware upgrade', 'Logfile', 'License', 'User acoustic tones'), and 'Video camera'. The main content area is titled 'Configuration' and contains several sections: 'Save configuration:' with a 'Make' button; 'Load configuration:' with an empty text input field; 'Load phonebook:', 'Load network and SIP:', and 'Load others:' each with an unchecked checkbox and a 'Make' button; 'Clear phonebook:', 'Default network and SIP:', and 'Default others:' each with an unchecked checkbox and a 'Make' button. The footer of the interface reads '© ALPHATECH TECHNOLOGIES s.r.o.'.

The door entry IP Fermax allows saving of current setting to PC or other repository. From this saved file you can later restore this setting in a few levels – for example phone book only. It helps for example during installation of door entry in more entries to the building.

**Save configuration** – after click to „Make” button will be offered where you can save the file

**Load configuration** – by click to empty button will be offered file selection. Further is necessary select if phone book, network setting, SIP and other parametres have to be loaded. By click to „Make” button is loaded door entry petting from the file.

**Default (factory) setting** – is selectable in more levels:

**Clear phone book** – erase complete phone book into default (all 999 possible items)

**Default network and SIP** – make default setting of network (IP address 192.168.1.250) and erase SIP setting

**Default Others** – all remains parameters put to factory setting

By click to „Make” will be done required setting/erasing door entry parameters.

### 3.6.3 *Language and style*

**Load Style file** – by click to empty button select the file and by click to „Make” is style file (symbols and colours setting) loaded /\*.html/.

File with customization use from firmware V3.4.2 on this place for change the style (design) of WEB pages in doorphone IP Fermax /\*.custom/.

**Load logo file** – by click to empty field select the file and by click to „Make” is logo file. Logo file is standard picture /JPG or GIF or BMP or PNG/ with dimension about 200 x 100 px and name **logo.\*** .



To create new language we recommend following steps. Firstly make export of language file (language version of exported file is simultaneously selected language ( flag in right top corner). Rename this file to new language and open in text editor (PSPad is recommended because file has rows ended by LF only and no CR+LF as usual). Character set select UTF8 and make translation. **Translation:** There is displayed a bit of the language file. Translates only the red marked part (**texts**), the rest must be left unchanged, otherwise violates file structure.

```
...
#sip parametry
SIP_TIT="SIP parameters"
SIP_MODE="SIP mode"
SIP_MODE_P2P="Peer-to-peer"
SIP_MODE_SRV="SIP server"
...
```

Save finished file (file name is language and no extension) and import to door entry. The flag will be assigned to language file automatically according row for example. SYS\_FLAG="gb" for Great Britain. Country code examples (flag codes) are mentioned in bellow table:

CZ	Czech republic	NL	Holand
GB	Great britain	IT	Italy
SK	Slovakia	DE	Germany
ES	Špain	PL	Poland
FR	France	HU	Hungary
GR	Greece	PT	Portugal

Further codes are according directive ISO-3166-1 alpha-2

Code examples of most often used languages:

Cs	czech	nl	Dutch
En	english	it	Italian
Sk	slovak	de	German
Es	spanish	pl	Polish
Fr	french	hu	hungarian
el	greek	pt	portuguese

Further language codes are according directive ISO 639-1

### 3.6.5 Firmware upgrade

**Firmware version** – display present firmware version in door entry IP Fermax  
**Choose firmware file** – by click to empty field select file with firmware (for example apt.firmware it is not file \*.zip, but already unzip file – on website are firmware files packed to archive \*.zip)

In Windows is display proces so firmware upgrade. When from any reason (power failure, network disconnection etc..) firmware upgrade is not finished then you find backup WEB interface for repeating of firmware upgrade.

If you have any problem so is possible by switch of DIP 2 switch to position on and restart on adress 192.168.1.250 you find backup WEB interface for repeating of firmware upgrade. Name is **admin** and password is **1234**. After, do **not forget** move back **DIP switch 2 to position OFF** !.



After firmware upgrade you must make restart of doorphone IP Fermax.

### 3.6.6 Logfile

The screenshot shows the web interface of an IP BOLD device. The header includes the company name 'ALPHATECH TECHNOLOGIES s.r.o.' and the logo 'ALPHN Tech'. The left sidebar contains a menu with options: Current status, Network setting, Basic settings, Extended settings, Service (with sub-items: Restart, Configuration, Style and language, Firmware upgrade, Logfile, License, User acoustic tones), and Video camera. The main content area is titled 'Logfile' and contains the following settings:

- Start enhanced log:**
- Download log file:**
- Show call log:** [Show in new window](#)
- Syslog server:**

At the bottom right of the interface, there is a small copyright notice: © ALPHATECH TECHNOLOGIES s.r.o.

**Start enhanced log** – it is OFF in default to save processor efficiency. When you switch it ON then are save into internal memory detail information about door entry operation. It is very helpfull to solve different problems ( compatibility etc..).

**Download log file** – after activation of enhanced log perform action which doesnt work correctly and immediatelly after performing click on button „Make”. You save like this record of extended log file into file which you send to [www.alphatechtechnologies.cz](http://www.alphatechtechnologies.cz) for further analyses (see procedure. below).

**Show call log** - in new WEB interface window are online display information about making calls.

**Syslog server** – IP adress or server name of syslog server where will be sent records about IP Fermax door entry operation (do not forget setup NTP server for setting of internal door entry clocks otherwise records will be saved with incorrect date and time)



The procedure to download Enhanced LOG file. Really send by e-mail LOG downloaded file, do not send copies of screens, videos, etc.

1. Turn on enhanced LOG (click Start). Before this step, it is recommended to restart the IP Fermax
2. Perform the action that you are interested in, where you have the problem
3. Immediately download the LOG file uploaded to your PC
4. This file be attached to e-mail a brief description of the problem and send (email contacts on [www.alphatechtechnologies.cz](http://www.alphatechtechnologies.cz))

### 3.6.7 License

This page allows extend door entry features about payable functions via licenses. For example audio codec G729.

After payment you receive license number by email

License validity shows if license is working correctly. The license code is connected to MAC number of door entry.



### 3.6.8 Sound files

ALPHATECH TECHNOLOGIES s.r.o.

 **ALPHD**  
Tech



IP BOLD

Current status

Network setting

Basic settings

Extended settings

Service

- Restart
- Configuration
- Style and language
- Firmware upgrade
- Logfile
- License
- User acoustic tones**

Video camera

### User acoustic tones

Acoustic tone on button pressed:  
[Save](#) [Clear](#) [Play](#)

Acoustic tone on call start:  
[Save](#) [Clear](#) [Play](#)

Acoustic tone on remote ringing:  
[Save](#) [Clear](#) [Play](#)

Acoustic tone before call end:  
[Save](#) [Clear](#) [Play](#)

Acoustic tone on call end:  
[Save](#) [Clear](#) [Play](#)

Acoustic tone on error:  
[Save](#) [Clear](#) [Play](#)

Acoustic tone on remote busy:  
[Save](#) [Clear](#) [Play](#)

Acoustic tone on unknown number:  
[Save](#) [Clear](#) [Play](#)

Acoustic tone on valid code entry:  
[Save](#) [Clear](#) [Play](#)

Acoustic tone during relay run:  
[Save](#) [Clear](#) [Play](#)

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This page is designed for recording own (user) sounds signalling. By click on „Play“ will be played currently active sound file (selection is performed on page „Audio setting“ eventually sound of relay closing on page „Relays“).

***Attention files are recorded on a microSD card!***

**Audio files: WAV – 8Kbit – mono – 16bit PCM**

## 4 **Technical parametres**

---

### 4.1 **Electrical parametres**

<b>Parametr</b>	<b>Value</b>	<b>conditions</b>
Interface	Ethernet 10BaseT, 100BaseTx	
VoIP protocol	SIP 2.0 defined RFC3261	
Default IP address	192.168.1.250	
Audio	G.711u, G.711a, G.726-32b, GSM, G722, G729 (optional)	
Band range	300Hz – 3400 Hz	
Echo supression	Automatical	
Output power	Class D, 1W/8ohm, 94dB/1kHz/1m/1%	
Video	série JPEG, MJPG, stream H.263, H.264	
Resolution	Max. 640 x 480	
Camera angle	120deg H x 110deg. V	
Power supply - adapter	12V <sub>DC</sub> ± 2V , 12V <sub>AC</sub> ± 1V	
- or PoE	IEEE802.3af Altern. A + B	
Max. consumption	300mA	12Vss
Max. switching voltage by relays	48V	when I < 1A
Max. switching current by relays	2A	when U < 30 V
Temperature range	- 20 to + 80°C	

### 4.2 **Mechanical dimensions**

- Fermax -

## 4.3 Video parametres

**Video formats:** JPG, MJPG, H.263, H.264

**Video for WEB:**

**Internet Explorer, Mozilla, Opera, Firefox...** - (set of JPG pictures - Port 80)  
it is used repeated http request „IPaddress/video.jpg“

**programm PopUp** (“iBell office”) - (MJPEG stream - Port 80) is used http request „IPaddress/video.mjpg“ (sometimes is reload necessary to run). This video is more fluent and has less network strain.

**Stream video for IP phones:**

H.263 and H.264 is established by IP Fermax door entry and IPvideo phone over SIP/SDP protocol on standard SIP port. The video (as same as sound) then runs by RTP protokol on ports agreed over SIP (usually 9078).

rtsp request „rtsp://IPaddress/video.264“

or rtsp request „rtsp://IPaddress/video.263“

**Video parametres:**

JPG Pictures are created in IP modul and for all transmit protocols are the same. The Size (resolution) of video is selected in "Video setting" on WEB. Maximal resolution is defined by USB camera type and mostly is 640x480. Stream H.263 knows CIF resolution (352x288). It means bigger JPEG is cut and smaller framed.

Frequency (1-15 picture./sec) JPG Picture is selected in "Video setting" on WEB as Low – Optimal - Full.

Frequency MJPG and Stream H.263 coming from camera. It is used every second and reset is between 7-15 pictures/sec. Higher resolution brings decrease of Pictures/ sec. (limited by processor efficiency)

**Ports:**

Port **80** for http (WEB pages even JPG / MJPG video on them)

Port **5060** for SIP

Ports RTP with opposite party communicates over SIP. Usually Port **7078** suggested for audio and Port **9078** for video

Port **554** video( H.264 and H.263) provided by door entry (server) protocol RTSP

**Audio files:** WAV – 8Kbit – mono – 16bit PCM

**Setup:** Default IP adress 192.168.1.250  
name: admin / password: 1234

**Video:** name: video / password: 1234 (if required).

### 4.3.1 *Requests*

#### **VIDEO:**

JPG - http:// IPaddress /video.jpg  
MJPEG - <http:// IPaddress /video.mjpg>  
H.263 - rtsp:// IPaddress /video.263  
H.264 - rtsp:// IPaddress /video.264

#### **RELAYS:**

http:// IPaddress /relay\_control?1=on  
http:// IPaddress /relay\_control?1=off

http:// IPaddress /relay\_control?2=on  
http:// IPaddress /relay\_control?2=off

http:// IPaddress /relay\_control?3=on  
http:// IPaddress /relay\_control?3=off

http:// IPaddress /relay\_control?4=on  
http:// IPaddress /relay\_control?4=off

#### **BUTTONS:**

[http:// IPaddress /button\\_control?btn=1](http:// IPaddress /button_control?btn=1) - remote activate btn 1  
[http:// IPaddress /button\\_control?btn=27](http:// IPaddress /button_control?btn=27) - remote activate btn 27



**Guarantee conditions:**

The product was shop-checked. The producer guarantees that this product will keep the features described in these operating instructions in the course of guarantee provided that the user will be handled with it as described in the operating manual. Particularly the warranty does not cover damage from improper intervention via **Telnet**. The guarantee will be extended by period of possible guarantee repair.

When claiming in guarantee period please contact your dealer. The producer only will make the guarantee repairs. Attach the description of claim reason, proof of purchase and your exact address to the product.

**The guarantee does not include:**

- mechanical, thermal, chemical and other damages caused by user's activities
- defects caused by natural disasters
- defects caused by repair or changes carried out by user or other unauthorized person
- willful damage of product
- incorrect use of product caused by other use than specified in operating manual (e.g. installation, programming, improper use of **Telnet**)
- damages caused during product transport to customer and from supplier

Producer:

Dealer:

Date of sale:

