

DIVUS VIDEOPHONE 4



DIVUS VIDEOPHONE 4 USER MANUAL

Version **4.2**

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GENERAL INFORMATION

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The manual has been conceived and written for users who are experienced in the use of PCs and automation technology.

CONVENTIONS

[KEYS]	Keys that are to be pressed by the user are given in square brackets, e.g. [CTRL] or [DEL]
COURIER	On-screen messages are given in the Courier font, e.g. C:\>
COURIER BOLD	Keyboard input to be made by the user are given in Courier bold, e.g. C:\>DIR).
”...“	Names of buttons to be pressed, menus or other onscreen elements and product names are given within double quotes. (e.g. “Configuration”).
PICTOGRAMS	In this manual the following symbolic are used to indicate particular text blocs.
	Caution! A dangerous situation may arise that may cause damage to material.
	Hint Hints and additional notes
	New New features

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1 Generic information

1.1 INTRODUCTION

The application DIVUS VIDEOPHONE completes the DIVUS intercom portfolio and makes video communication possible on Android/Windows/iOS devices.

When starting the application for the first time, it will show a welcome message with some useful information. Before being able to use the application, it namely has to be configured and integrated as VoIP client into the existing system.



Note: This manual exclusively shows the configuration of the DIVUS VIDEOPHONE application and does not go deeper into the VoIP topic. In order to use the application it is required that a configured and working VoIP server is present in the system.

1.2 SUPPORTED PLATFORMS

The application DIVUS VIDEOPHONE is available for several platforms:

- Windows
- Android
- iOS

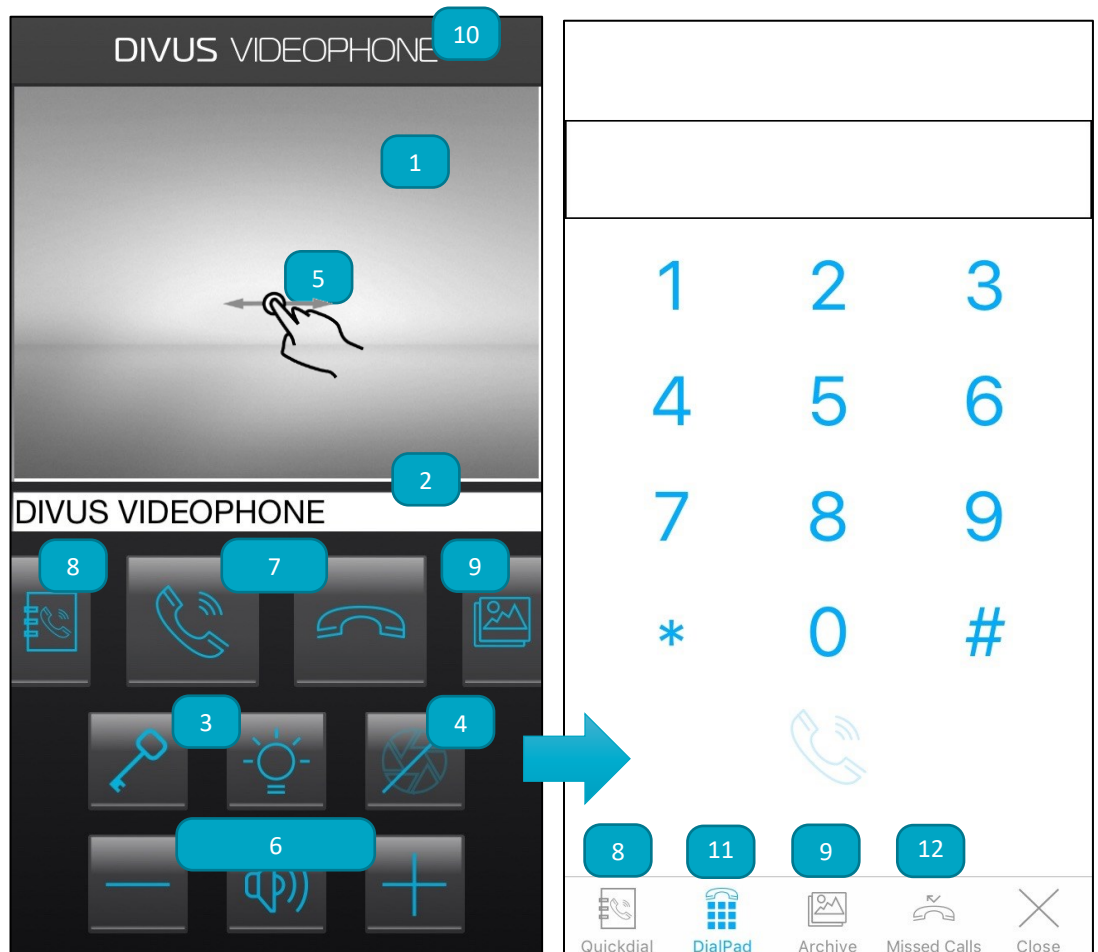


Please consult the corresponding chapter of this manual for platform specific information about DIVUS VIDEOPHONE

2 Functionality

2.1 USER INTERFACE

The following picture shows the user interface of DIVUS VIDEOPHONE. Moreover, on this page you can find some explanations of the individual areas / buttons:



- 1) **Video window:** Shows the active video signal. If there should be no video source configured or the configured video source not be available a loading screen appears in the video window.
- 2) **Status bar:** Shows information regarding the app status, caller, call state and much more
- 3) **Key- and Light-button:** customizable buttons, which can start actions on the connected intercom or KNXCONTROL system (e.g. door opener, light, auxiliary relay etc.)

- 4) **Camera-button:** Shows / hides the camera signal during active calls; if there is no active call the video source of the door station enabled for the spy-functionality is shown.
- 5) **Next- and Previous:** Switch to the next or previous video source defined for the same door station or as "default" by a horizontal swipe gesture made directly on the active video window in the appropriate direction (right to left = next video source, left to right = previous video source).

Double click: If the video of a configured video source is displayed it is possible to save an instant snapshot through a double click gesture directly on the video window in the archive. This option is only available if the archive-functionality is enabled.
- 6) **Volume control/DND buttons:** These buttons allow the audio volume adjustment or to mute / unmute the application and to switch to DND-mode or back to normal mode. When muting is enabled, incoming calls are displayed, but no sound is heard. The muting-button mutes loudspeaker and microphone. A long press of the mute button enables the DND-mode: the device won't receive calls in this mode. A second long press on the mute button disables the DND mode.
- 7) **Accept- and Hangup-button:** Are used to accept or reject / end calls. If there is no incoming call, pressing the accept button will show the dial pad where a free number can be entered to call.
- 8) **Quickdial list:** opens a list containing the available quick dial entries defined inside the phonebook. If one entry of the list is clicked a call to the corresponding number saved in the phonebook is immediately started.
- 9) **Archive:** Opens a window showing the archived pictures and giving the possibility to swipe through the single pictures, delete single pictures and share them by using the available sharing possibilities.
- 10) **Logo:** By clicking the DIVUS VIDEOPHONE logo the configuration menu appears, through which all settings can be configured.
- 11) **Dialpad:** A call to any number can be started from here
- 12) **Missed calls:** In this list all missed calls are listed. If there are any unread missed calls a badge will show this inside the main user interface.

2.2 FUNCTIONALITIES

2.2.1 VIDEO DOOR COMMUNICATION

If a door call is processed from an external unit (analogue intercom connected to the Videophone-Box, OPENDOOR or other compatible IP door station) DIVUS VIDEOPHONE will show the corresponding video sources inside the video window; with the appropriate swipe gesture on the active video window it's possible to switch between the single video sources defined for the calling external unit. At the same time the status bar shows the name and caller ID of the calling external unit. The call can then be accepted, rejected, or just the door opener can be activated. If the key-button is pressed without answering the call, DIVUS VIDEOPHONE automatically performs the following sequence: "Accept" - "Send DTMF-tone to activate the door opener" - "Hangup". Of course it is also possible to activate the door opener during an open conversation with the guest outside by pressing the key-button.

Conversely, it is also possible to establish a conversation with the door station, when no one has pressed a ring button outside: Use the quickdial list to call the door station by clicking the corresponding entry inside the quickdial list or enter the corresponding number inside the dialpad. Also from within the missed call list a call to the door station can be started by clicking the corresponding entry.

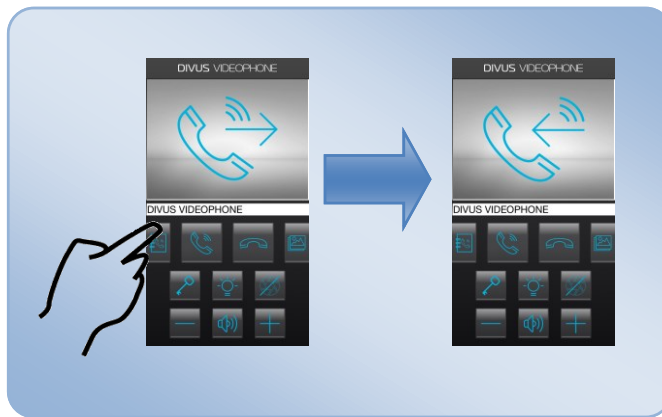


2.2.2 SPY-FUNCTION



If there isn't any active call, with the camera-button the spy-function can be enabled and disabled. If the spy-function is activated, the video window shows all the video sources defined for the external unit selected as doorspy. With the appropriate horizontal swipe gesture on the active video window it's possible to switch between the single video sources.

2.2.3 INTERPHONE






Basically each VIDEOPHONE-client is connected to the VoIP-server like a normal telephone is connected to a telephone central. Therefore it's also possible to make calls from one VIDEOPHONE-client to another VIDEOPHONE-client. When the call number of a VIDEOPHONE-client is entered through the dialpad the corresponding VIDEOPHONE-client will ring. The same can be achieved through the quick dial list by clicking the corresponding entry. Only if in the VoIP-server configuration calls between

VIDEOPHONE-clients are not allowed (different areas, apartments etc.) or if the limit of maximum simultaneous calls is reached on the VoIP-server, interphone calls won't be possible.

2.2.4 ARCHIVE

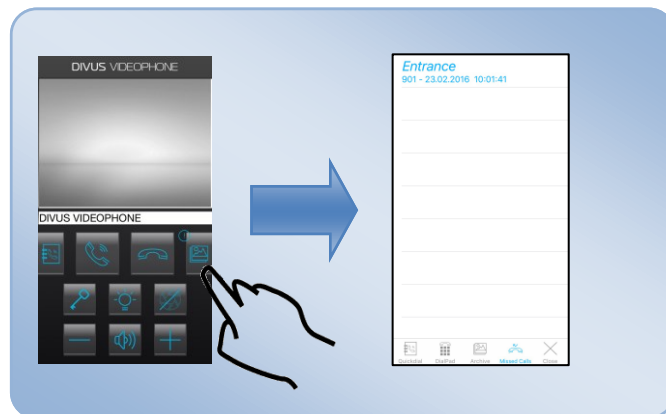
If the archive mode is enabled, on each incoming call from an external unit a snapshot of the video source defined for the same external unit is saved into the archive. The archive can be opened over the archive button inside the main user interface. In the archive window the archive pictures are shown. The corresponding VoIP ID or name is shown on top, while date and time when the snapshot was taken are shown beneath the picture. Single pictures can be shared easily over the corresponding button and it is possible to delete single pictures. Deleting the whole archive is possible from within the settings menu. A symbol in the upper right corner of the archive image illustrates the origin of the image. The following lists explains the symbols and their meaning:

	Received call
	Missed call
	Snapshot



2.2.5 MISSED CALLS

If the archive mode is enabled, missed calls are archived, too. If a call is not answered it is considered as a missed call and added to the corresponding list with VoIP ID or available name and timestamp. A badge on the archive button indicates that a new unread missed call is available; clicking on the the archive-button in that case opens directly the missed call list. If an entry in the list is selected the correponding client is called immediately. The missed call list can be deleted from within the settings menu if required.



2.2.6 SNAPSHOT

If the archive-functionality is enabled, it is possible to save a still image of a displayed video source as a „snapshot“ in the archive by double-clicking directly on the active video window. Thus, an image of the current situation in front of the door can be stored at any time.

2.2.7 AUTO-SEQUENCES

If there is an incoming call from the door station, but you do not want to speak to the guest, but simply open the door, by pressing the key-button directly without answering the call before, DIVUS VIDEOPHONE will automatically answer the call, send the right DTMF tones for activating the door opener and afterwards hang up automatically the call. Such auto-sequences are available for the key-button and the light-button, if they are set to trigger dtmf tones (default setting).

2.2.8 CUSTOMIZATION



The whole design and the ringtones can be customized at wish. It is possible to select the wished skin from different themes, where it is possible to choose the theme, the icon set and the background. For the background also custom pictures or photos can be used. The generic ringtone and the ringtone for each external/internal unit can be selected from the available ringtones or a custom music file can be chosen. In addition is possible to hide/show only the wished buttons inside the main user interface.

2.2.9 REMOTE MODE

If DIVUS VIDEOPHONE runs on a device outside of the local network and the remote mode is enabled DIVUS VIDEOPHONE can receive calls remotely. Corresponding setup of the local network is required (VoIP server, port forwardings etc...).

2.2.10 MUTE MODE

If the mute-mode is active, DIVUS VIDEOPHONE will behave as normal, with the only difference, that no ringtone will be heard on incoming calls and if a call is established it is neither possible to hear the guest speaking nor the guest outside will be able to hear any word spoken inside (no audio in both directions). The mute can be enabled and disabled everytime by using the mute-button on the main user interface.

2.2.11 DO NOT DISTURB

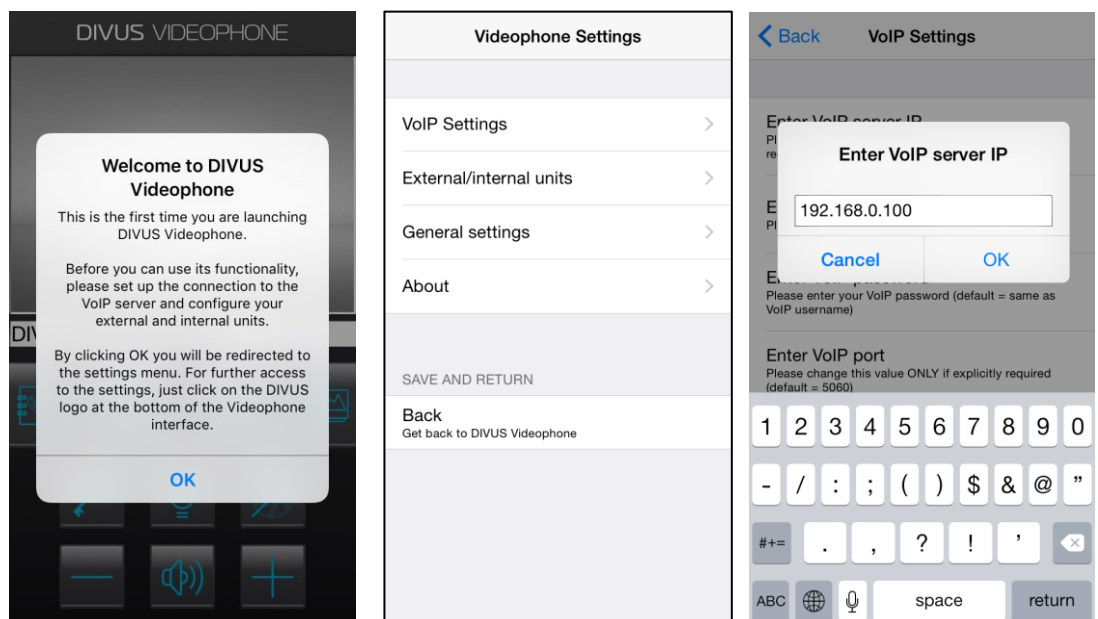
Sometimes we all need time for our own and do not want to be disturbed by anyone. Therefore DIVUS VIDEOPHONE supports a DND-mode (Do Not Disturb). This mode can be activated by doing a long click on the mute-button inside the user interface or from within the settings menu. Once the DND mode is activated, DIVUS VIDEOPHONE will reject all incoming calls without giving any feedback to the user (no ringtone, no popup); the user won't be disturbed anymore. In this case rejected calls won't be recorded as missed calls until the DND-mode is disabled.

3 Configuration

3.1 CONFIGURATION MENU

The configuration menu can be accessed by clicking on the DIVUS VIDEOPHONE logo located at the top of the main user interface. The settings menu allows to navigate into the corresponding sub menus, while the back button brings you back to the main user interface and saves the changes done inside the configuration.

The first time DIVUS VIDEOPHONE is started a message will appear, which leads you automatically into the configuration menu, because the application can't be used, if the core configuration (voip server IP address, username and password) are not configured.



Hint: When the configuration menu is accessed, DIVUS VIDEOPHONE is automatically disconnected from the used VoIP server and can therefore not receive any calls until the configuration menu is left and the main user interface shows up again.



Hint: All the changes made in the configuration menu are only saved, when you return to the main user interface. If the application is terminated with opened configuration menu all changes will be lost.

3.1.1 VOIP SETTINGS

The core settings to set up the voip communication are located here:

Generic

- **VoIP server IP:** IP address of the used VoIP server
- **VoIP username:** Username for the registration at the VoIP server
- **VoIP password:** Password for the registration at the VoIP server
- **VoIP port:** IP port (UDP) which the VoIP server uses for SIP communication
- **DTMF method:** Method to be used to send DTMF tones (RFC2833, SIP INFO).
- **Enable re-registration:** Periodically re-registration on the VoIP server. This can be necessary for certain VoIP servers like for example the AVM Fritzbox. In normal use case this setting should be disabled.
- **Registration timeout:** Timeout for the periodically re-registration. This setting is only available if the re-registration is enabled.

Remote

- **Remote connection:** If enabled DIVUS VIDEOPHONE can connect also from remote to the VoIP server by using the corresponding remote settings (corresponding network setup and port forwarding required).
- **VoIP server address:** Remote address of the Voip server. Normally it is the external IP of the installation or a dyndns url.
- **VoIP port:** External port forwarded to the local SIP port of the VoIP server; the required port forwarding must be defined in the local internet router.
- **RTP min. port:** Minimum port number of the rtp port range for audio conversation.
- **RTP max. port:** Maximum port number of the rtp port range for audio conversation.
- **Local WIFI SSID:** SSID of the local WIFI. The local SSID is used to identify the local network. If only 3G or another WIFI is available DIVUS VIDEOPHONE will switch to remote mode; only in the local WIFI DIVUS VIDEOPHONE will switch to local mode. If no SSID is defined the application will switch to local mode if WIFI is available. It is possible to enter also more than one SSID here separated by comma.

3.1.2 EXTERNAL/INTERNAL UNITS

3.1.2.1 PHONEBOOK

The phonebook contains all information about the individual caller. The "Caller-ID", also called "VoIP-ID", is the value through which a caller is related to the information stored in the phonebook for one of the contained contacts. The "Caller-ID" is mostly a three-digit number which identifies a unique contact in the whole system. It is the number which DIVUS VIDEOPHONE gets on an incoming call from the calling client; of course the client must be registered on the VoIP server with the appropriate VoIP-ID. If a quickdial-button is enabled, the "Caller-ID" must be identical to the number to dial for calling the client. It is possible to navigate through the single defined contacts divided in external and internal units.

For each external unit up to two video sources can be defined; switching between the video sources can be done in the DIVUS VIDEOPHONE user interface with a horizontal gesture on the active video window.

Internal and external units have different settings as follows:

External unit:

- **Type:** The type of the used external unit can be selected here. For example if "DIVUS OPENDOOR" is used as external unit, the type to choose would be "OPENDOOR". The correlated DTMF tones for accept the call, trigger the dooropener, trigger the auxiliary relays and hangup the call will be set up automatically. If the type "MANUAL CONF." is chosen, the DTMF tones can be defined freely. This is required if the used external unit is not present in the list.
- **VoIP ID:** This is the VoIP ID to which all the settings of the according external unit inside the phonebook will be applied on incoming calls from the external unit and outgoing calls to the external unit. This ID must therefore be the same as the ID the real external unit is registered at the VoIP server. If a quickdial button is enabled for the external unit inside the phonebook, DIVUS VIDEOPHONE will call the same number as defined for the VoIP ID here, when the quickdial button is pressed.
- **Display name:** Name of the external unit. The name is shown inside DIVUS VIDEOPHONE whenever information of the caller are shown or stored (status bar, quickdial, archive ...).
- **Ringtone:** This setting defines, if for incoming calls from the selected external unit, the default ringtone will be played or a custom one. "default" means that the default ringtone will be used for this external unit; the default ringtone is configured in the "General settings" menu. If for the external unit a personalized ringtone shall be used, you can choose one of the available ringtones from a list or a media file of your choice.
- **Quickdial button:** If this option is enabled a quickdial button will be available inside DIVUS VIDEOPHONE. Through the quickdial button the corresponding list can be opened; by clicking an entry of the list the corresponding number is called immediately.
- **DTMF-...:** Here the DTMF tones for accept a call, triggering the dooropener, triggering the auxiliary relays and hangup a call can be defined. These settings are available only if the chosen external unit type is "MANUAL CONF.", otherwise the input fields will be grayed out and show only the pre-defined values, which can't be changed. An empty value or the value "x" means that no DTMF tone will be sent in the according situation.
- **Stream type:** The stream type to use for receiving the video from the corresponding video source can be defined here. Available stream types are:
 - Motion Jpeg: You have to define the whole path to the motion Jpeg source
 - Generic Jpeg: You have to define the whole path to the Jpeg source
 - Use camera of selected intercom type: According to the above chosen type, the path to the video source and the stream type are chosen automatically and therefore only the IP address of the video source must be specified.
- **IP address/Local Url:** If the stream type "Use camera of selected Intecom type" is selected in the previous setting, the local IP address of the video source can be specified here. If stream type "Motion Jpeg" or "Generic Jpeg" is selected, the whole path to the video source must be entered here, without leading "http://".

- **Remote IP/Remote Url:** If the stream type "Use camera of selected Intecom type" is selected, here the remote address to the video source can be specified; the address must include the external port forwarded to the local port, without leading "http://" (for example "external.com:8088"). If stream type "Motion Jpeg" or "Generic Jpeg" is selected, the whole path to the video source must be entered here by using the external address including the forwarded port without leading "http://" (for example "external.com:8088/jpg/image.jpg").
- **Username:** The username for accessing password protected streams can be entered here.
- **Password:** The password for accessing password protected streams can be entered here.
- **Archive delay:** The delay in milliseconds to wait on incoming calls before the snapshot of the camera is stored in the archive.



Attention! DIVUS VIDEOPHONE doesn't support the SIP-video format (forwarding of the video stream through the VoIP-server encoded with a special video codec)! The assignment of the video sources is done in the phonebook in dependency of the Caller-ID.

Internal unit:

- **VoIP ID:** This is the VoIP ID to which all the settings of the according internal unit inside the phonebook will be applied on incoming calls from the internal unit and outgoing calls to the internal unit. Therefore this ID must be the same with which the real internal unit is registered at the VoIP server. If a quickdial button is enabled for the internal unit inside the phonebook, DIVUS VIDEOPHONE will call the same number as defined for the VoIP ID here, when the quickdial button is pressed.
- **Display name:** Name of the internal unit. The name is shown inside DIVUS VIDEOPHONE whenever information of the according internal unit are shown or stored (status bar, missed calls ...).
- **Ringtone:** This setting defines, if for incoming calls from the selected internal unit, the default ringtone will be played or a custom one. "default" means that the default ringtone will be used for this internal unit; the default ringtone is configured in the "General settings" menu. If for the external unit a personalized ringtone shall be used, you can choose one of the available ringtones from a list or select a custom music/sound file.
- **Quickdial button:** If this option is enabled a quickdial button will be available. Through the quickdial button the corresponding list can be opened; by clicking an entry of the list the corresponding number is called immediately.
- **Image file:** For better personlization of incoming/outgoing calls from/to an internal unit, an image file can be assigned to a VoIP ID here. The corresponding image file will show up inside the video window of the main user interface on incoming/outgoing calls from/to the corresponding internal unit. With a long click upon the selected image file, it is possible to return to the default picture.

3.1.2.2 SELECT SPY CAMERA

Here an external unit can be selected from which the defined video sources should be visible when the camera button is pressed and there is no ongoing call. This enables the user to check up to two cameras also when there is no active call, in order to spy outside.

3.1.2.3 DOOR OPENER SETTINGS

The dooropener functionality can be defined here for the main dooropener (key symbol) and the auxiliary door opener (light bulb symbol):

- **Send DTMF:** The DTMF tones defined for the external unit to which a call is ongoing
- **Send KNX signal:** Independent from the external unit to which a call is ongoing, the defined KNX-Object available on KNXSERVER/KNXSUPERIO is triggered, whenever the corresponding button is pressed on the main user interface, also if there is no call ongoing.

Send DTMF

The only setting available here is the „Default delay for multiple DTMF tones“. This setting defines the delay between one and the next DTMF tone if multiple DTMF tones (more than one digit) are used. In some situations can be necessary to use a higher delay than the default value.

Send KNX signal

This functionality can only be used if a KNXSERVER or KNXSUPERIO is available inside the system. DIVUS VIDEOPHONE can then trigger one of the available KNX-Objects on KNXSERVER/KNXSUPERIO. The settings here are the following:

- **KNXCONTROL IP address:** IP address of the installed KNXSERVER/KNXSUPERIO
- **KNXCONTROL remote address:** Full external address to the port forwarded KNXSERVER/KNXSUPERIO including protocol, address and port (for example <https://www.external.com:8443>).
- **Object ID:** ID of the KNX-Object present on KNXSERVER/KNXSUPERIO, which should be triggered. The ID can be found in OPTIMA administration inside the search engine, when the target KNX-Object is listed as search result.
- **Duration of door opener signal:** The correlated object will be switched on and then off again after a certain time. The duration for which the object will be switched on, can be defined here.



Attention! The option “Send KNX signal” will work only if a KNXSERVER or KNXSUPERIO is available in the installation from which the target KNX output can be triggered!

3.1.3 GENERAL SETTINGS

Here the general settings of DIVUS VIDEOPHONE can be defined. The following options are available:

- **Keep Display on:** If this setting is enabled, DIVUS VIDEOPHONE will prevent the device from turning off the screen when the app is in foreground.
- **Default ringtone:** Here the default ringtone can be selected from a list of available ringtones or a media file of your choice. The here selected ringtone will be used for every incoming call coming from a VoIP ID for which in the phonebook the “default” ringtone was defined and for every incoming call coming from a unknown VoIP ID (not present inside the phonebook).
- **“Do not disturb” mode:** If enabled the mute button in the main user interface will show a red mute symbol and all incoming calls are rejected automatically by DIVUS VIDEOPHONE itself without ringing. This setting can also be enabled/disable from within the main user interface through long click on the mute button.
- **Password Protection:** Here a password can be defined to protect/restrict access to the settings of DIVUS VIDEOPHONE. This can be necessary to prevent the end user to make changes by accident. If a password is set the configuration menu can be accessed only by entering the right password. To disable

the password protection the input field for the password, which appears in a popup window by clicking on the corresponding option, must be confirmed empty.

- **Log:** This option leads to a sub menu where the logging parameters can be accessed:
 - **Enable log:** The logging can be enabled/disabled here
 - **Clear log:** The log file can be cleared here. This is recommended whenever a new logging period is started to avoid chaos for the later analysis; this option is only available if the logging is enabled.
 - **Send log:** By clicking on this option automatically a mail is created containing the settings of DIVUS VIDEOPHONE and the log file; the standard receiver is support@divus.eu. To be able to use this feature a mail account must be configured on the device.



Hint: Enable the logging function only if the DIVUS support give instruction to do it for analysis purposes. Once the analysis is over, please disable the logging functionality again!

- **Archive:** This option leads to a sub menu where the archive parameters can be accessed:
 - **Enable archive:** The recording of pictures and missed calls can be enabled/disabled here, same as the snapshot-functionality.
 - **Empty picture archive:** By clicking this option all saved archive pictures will be deleted.
 - **Clear missed calls:** By clicking this option all saved missed calls will be deleted from the missed call list.
- **Design:** This option leads to a sub menu where the design options can be accessed:
 - **Theme:** The wished theme can be selected here
 - **Icon set:** The wished icon set can be selected here. It can be the default one belonging to the selected theme or one of the available other icon sets.
 - **Main dooropener symbol:** The desired symbol for the main dooropener can be selected here. The symbol automatically matches the selected theme.
 - **Auxiliary dooropener symbol:** The desired symbol for the auxiliary dooropener can be selected here. The symbol automatically matches the selected theme.
 - **Background:** Here it can be chosen if the default background of the selected theme or a custom picture shall be used in the main user interface.
 - **UI buttons visibility:** Here it can be chosen which buttons should be shown or hidden in the main user interface. The only buttons excluded here are the core actions "Accept" and "Hangup".
- **Backup/Restore:** Here the phonebook and the generic settings can be saved as backup or be restored from already created backups. The single backup files will be available as CSV-files. The files are created inside the root folder of the application and must be copied there to be able to import the contained settings.



Hint: If a custom picture is used as a background, then during stand-by the camera box will be transparent with a diagonal transition to white in the bottom-right corner.

3.1.4 ABOUT

Here all information about Videophone are shown:

- Application name
- Detailed version
- Copyright
- DIVUS homepage
- Support mail address and phone number

3.2 REMOTE FUNCTIONALITY



Attention! The usage of the remote functionality gives also access to the dooropener from outside when nobody is at home. DIVUS does not take any responsibility for consequences if the user shall open the door from remote by/improper use of this function or by controlled triggering of the dooropener from remote!

To be able to use the remote functionality and so receive calls also outside of the installation the network must be set up in such a way to allow access from outside to single devices. The following steps must be considered:

- Port forwarding of the local SIP port from outside to the local IP address of the used VoIP server
- Port forwarding of the local cameras from outside to the local IP address of each single camera on port 80; this way DIVUS VIDEOPHONE can show the video also from outside the network.
- Port forwarding of the rtp ports used for audio communication. Normally the range 10.000-20.000 is used for communication. In this case this range must be forwarded in the internet router from outside to the local IP address of the VoIP server. If the forwarding of this range is not possible the range can be adapted in the settings of DIVUS VIDEOPHONE and the port forwarding can be done accordingly.
- If a KNXSERVER/KNXSUPERIO is used for triggering dooropener or light, also the access to KNXSERVER/KNXSUPERIO must be forwarded. Normally this is done over SSL on port 443.

4 OS specific aspects

4.1 ANDROID

4.1.1 MINIMUM REQUIREMENTS

In order to make DIVUS VIDEOPHONE work correctly the following requirements must be met:

- Android 3.0 HONEYCOMB (API 11) or higher
- WiFi access to the local network, or similar (e.g. Ethernet)
- Compatible VoIP server installed in the local network (for example DIVUS VS1)

4.1.2 LIMITATION

Following limitations must be considered:

- The application must be running either in fore- or background in order to be able to receive calls; if the app is terminated no more calls can be received. The background service can be terminated by swiping down the notification bar of the device and clicking the according DIVUS VIDEOPHONE notification..
- The application doesn't support SIP-video. A lot of IP ready external units uses video codecs, which normally are forwarded by the VoIP-server to the called client, which then automatically shows the video stream of the calling external unit; assuming that the called client device or software supports this behavior. DIVUS VIDEOPHONE doesn't support the SIP-video format; the video sources are defined in the phonebook and shown corresponding to the VoIP-ID of the calling client.



Attention: Continuous use of active WiFi is very battery consuming on Android devices! The application must remain active in the background in order to be able to receive incoming calls.

4.1.3 ADDITIONAL FEATURES

On Android OS DIVUS VIDEOPHONE offers some additional features:

- At first start the app may request permissions, required to perform certain operations. As long as these permissions are not granted the app can not be used. The permissions can also be granted/revoked manually in the application management page of DIVUS VIDEOPHONE 4.
- Camera configuration for external units is accessed through a button in the configuration of the external unit itself. Here, additionally to the previously discussed video sources, also a RTSP / H.264 stream can be configured. To use this feature, the user has to insert the full video path (including the "rtsp://" prefix, as seen in the hint), and username and password to access the video source; this feature is still in BETA stadium.
- In the general settings there is an additional option to also enable the app to start automatically whenever the device is rebooted..

- In the general settings there is an additional option to configure the app to go in background after a set amount of time. When this setting is active, the user needs to specify a time period (in seconds). After the app has been in foreground for longer than this period, DIVUS VIDEOPHONE will hide itself and be no more visible, but continues to run in background.
- Created backups are visible in the main folder of your device (e.g. /storage/emulated/0 or /sdcard/) and it's not recommended to edit them by hand. If you want to access these files from a PC, it's recommended to do so after a reboot of the device or after closing the app from the device's app settings, as these files else may be locked by the Android system and thus outdated.
- Screenshots of cameras on missed calls are stored on the device in a sub-folder of your main folder (e.g. /storage/emulated/0/Pictures/VP_screenshots or /sdcard//Pictures/VP_screenshots). Do not edit their name or copy other files into this folder, else DIVUS VIDEOPHONE may misbehave!
- A special feature, only available on DIVUS TOUCHZONE, DIVUS KNX IQ and DIVUS CTP, is the option to use the digital input/output of the device for different functionalities:
 - The digital inputs can be used to trigger a local call on the device itself. The user can select if the application is only expected to ring like a call incoming from an internal unit, or if also a camera stream should be displayed like a call incoming from an external unit. A SIP call has precedence over a call generated through digital input.
 - The digital outputs can be used to trigger an additional doorbells on incoming calls, or to be used as main/auxiliary dooropener to control coresponding actuators.
- Besides the 2 present dooropeners up to 4 additional dooropeners can be configured. These will appear as transparent buttons on the bottom of the camera box (from right to left) and can be used also outside a call to control either local/remote KNX objects or digital outpus of the DIVUS TOUCHZONE. They can be configured through the phonebook.
- When using camera stream of intercom type CIRCLE it's possible to choose an additional configuration for the camera overlay.
- When the app is running a notification is shown to let the user know the app is running in background. In the settings it's possible to configure if a click on this notification should terminate the app or should be ignored.



Attention: Consult the DIVUS TOUCHZONE manuals for detailed information about the correct wiring and usage of digital inputs/outputs of DIVUS !

4.1.4 INSTALLATION

DIVUS VIDEOPHONE can simply be installed and updated through the Google Play Store. Please note that the Play Store filters out apps which are not compatible with the used device, so if your device does not meet all requirements the application will not be visible in the Play Store.

Alternatively, if no Google Account is linked to the device, DIVUS VIDEOPHONE can also be downloaded as APK-file from the Divus homepage.



Hint: DIVUS VIDEOPHONE 1.0 is still available in the Google Play store. If your device matches the min. requirements for DIVUS VIDEOPHONE 4.0 it is recommended to install DIVUS VIDEOPHONE 4.0.

4.1.5 TRIAL VERSION AND LICENSING

From the day DIVUS VIDEOPHONE is installed on a device the app is available free of charge for a 20 days trial period, after this trial period a valid license key is required to be able to use the application. Each license key is only valid for a single device and bound to its lifetime; keys can not be shared among different users/devices. In order to acquire a license key get in touch with DIVUS.

The trial days left and current type of license can be seen in the settings of the application. Use the in-build form in the app to contact DIVUS in order to acquire a license. If this method fails, e.g. due to network limitations, please contact DIVUS directly at support@divus.eu.



Hint: DIVUS TOUCHZONE devices benefits of a free license, which is activated automatically on the device after installation.



Attention: if you reset the device, you may need a new license!

4.2 IOS

4.2.1 MINIMUM REQUIREMENTS

In order to run DIVUS VIDEOPHONE correctly the following requirements must be met:

- iOS 7 or higher
- Wifi access to the local network
- Compatible VoIP server installed in the local network (for example DIVUS-VS1)

4.2.2 LIMITATION

The operating system iOS implies some limitations:

- The application can't be configured to automatically start on startup of the device, but if the application was running before the device was powered off, the application will automatically be started by the OS after startup.
- The application must be active in fore- or background to be able to receive calls; if the application is terminated no calls can be received!
- The application doesn't support SIP-video. A lot of IP ready external units uses video codecs, which normally are forwarded by the VoIP-server to the called client, which then automatically shows the video stream of the calling external unit; assuming, that the called client device or software supports this behavior. DIVUS VIDEOPHONE doesn't support the SIP-video format; the video sources are defined in the phonebook and shown corresponding to the VoIP-ID of the calling client.



Attention: Continuous use of active WiFi is very battery consuming! Nevertheless DIVUS VIDEOPHONE must keep on running in the background to be able to receive calls.

4.2.3 INSTALLATION

DIVUS VIDEOPHONE can simply be installed and updated from the Apple app store.

Pre-release beta versions are not available inside the App store, but they are distributed to the beta community over TestFlight. For beta testing of such pre-release versions iOS 8 and the TestFlight App is required. To become a beta tester please contact beta@divus.eu.

4.2.4 URL SCHEME

DIVUS VIDEOPHONE can also be opened from within another App by using a so called "Url scheme". The url scheme for DIVUS VIDEOPHONE is "divusvp4://". If this Url scheme is called from another App DIVUS VIDEOPHONE comes into the foreground.

4.3 MICROSOFT WINDOWS

4.3.1 MINIMUM REQUIREMENTS

The following minimum requirements are necessary for DIVUS VIDEOPHONE to function properly:

- Windows 10 operating system
- Network connection (LAN or WIFI) to the other participants' devices.
- Functioning audio hardware: microphone and loudspeakers are necessary for communication.
- Depending on the configuration, the availability of an external VoIP server may also be necessary. However, the installation package allows you to install your own VoIP server on your own computer. If one uses this, the need for an external VoIP server is of course obsolete.

4.3.2 LIMITATIONS

The following limitations must be observed:

- The application must be running in the background or foreground in order to receive calls; if the app is completely closed, no calls can be received. The background service can be terminated by right-clicking on the DIVUS VIDEOPHONE icon in the Windows task bar (small icons at the bottom right) and selecting Exit.
- The application must be running in the background or foreground in order to receive calls; if the app is completely closed, no calls can be received. The background service can be terminated by right-clicking on the DIVUS VIDEOPHONE icon in the Windows task bar (small icons at the bottom right) and selecting Exit.
- The application does not support the SIP video format. This format forwards the information about the video stream to be displayed within the SIP protocol, whereby the streams used are encoded with a

codec. In this way, when a client receives an incoming call, it can display the corresponding video image using this information. DIVUS VIDEOPHONE identifies the caller via the VoIP ID and retrieves the necessary information about the video stream to be displayed from the phone book.

4.3.3 INSTALLATION

Both the 32-BIT and 64-BIT versions are available for installation. Select the appropriate installation package depending on the architecture of your computer. This then contains two separate applications. The Videophone application itself and a VoIP server application, which can also be installed optionally. If an external VoIP server is used, the VoIP server application is not required. More details on the VoIP server in chapter 4.3.6.

4.3.4 DEMO AND LICENSING

The DIVUS VIDEOPHONE 4 application comes as a 14-day demo version with full functionality. It will automatically deactivate after 2 weeks. If you decide to purchase a licence, you can access the page under general - licence - request licence; fill in all fields and press the tick in the top right-hand corner.

After successful payment, the licence key and instructions will be sent to you by e-mail. Licence keys are always valid individually for one computer and cannot be transferred to other computers.

The LIC file must be inserted in the directory of the VIDEOPHONE application. By default, this is
`C:\Program Files\DIVUS\DIVUS VIDEOPHONE`

After a restart VIDEOPHONE recognises the licence and tries to import it. You will receive a message. If it is the correct file, the application will automatically jump out of demo mode and you can use it indefinitely.

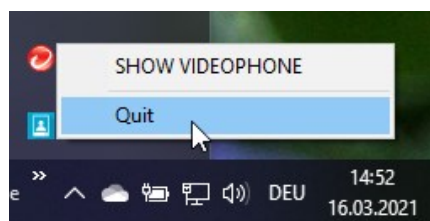
4.3.5 SPECIAL FUNCTIONS

4.3.5.1 UDP

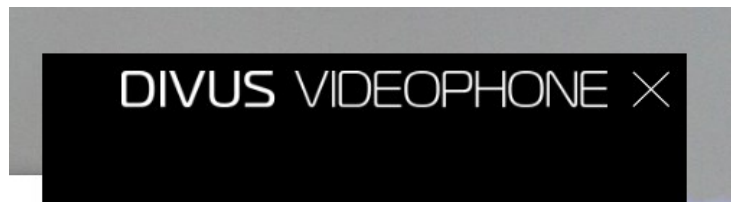
The Windows version of the VIDEOPHONE 4 can accept UDP commands if the *UDP control* function under *General settings* is enabled and configured correctly. This functionality is particularly useful in conjunction with the use of the DIVUS Dashboard which, on its turn, has the ability to both send and receive UDP commands. In such a setup, you can configure the DIVUS Dashboard to call the VIDEOPHONE 4 to the foreground ("pop-up") or to be minimized/hidden. Currently there are no other VIDEOPHONE functions to be controlled over UDP. For the command syntax, refer to the DIVUS Dashboard manual.

4.3.5.2 BRINGING THE WINDOW TO THE FOREGROUND OR CLOSING IT

If you want to start a call and the VIDEOPHONE window is not visible, you can show it via the corresponding function in the context menu of the systray icon.



The VIDEOPHONE can also be terminated from the same menu. After quitting, the PC no longer participates in the intercom system and therefore cannot be called. This is only possible again when the VIDEOPHONE application is called up again.

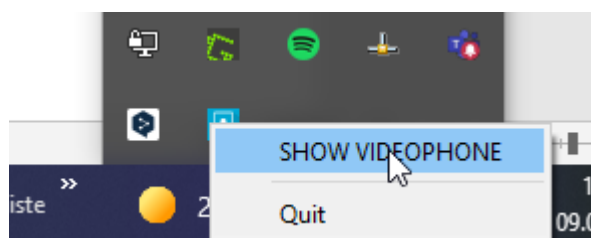


When VIDEOPHONE's main window is closed by the usual X icon in the upper right corner, the window disappears, but the communication service continues to run in the background, so the computer can be called and an incoming call brings up the VIDEOPHONE window. As proof of the background activity, you can look to see if the VIDEOPHONE icon is present in the systray to the right, near the clock. If you do not find it there, then the VIDEOPHONE is closed.

4.3.5.3 WINDOW SIZE AND POSITION

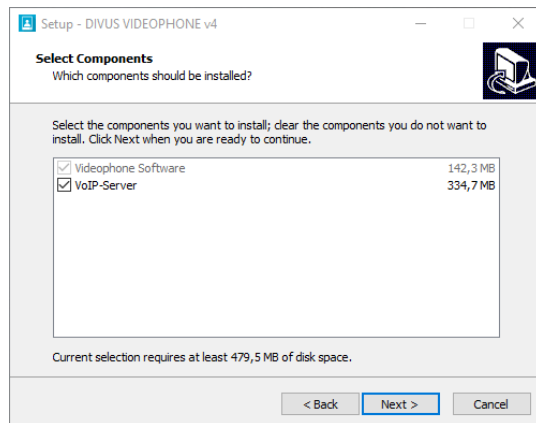
The size of the VIDEOPHONE window can be adjusted by holding down the lower right corner with the mouse and dragging it in the desired direction. The position can also be changed by holding down the title bar and releasing it in the desired position.

The system remembers the position and size - each time the window is called up, it will return to the same position and dimensions - until the next change.



4.3.6 VOIP-SERVER

During the installation, you can choose to install a VoIP server on your device in addition to the VIDEOPHONE application itself.



After the installation and a restart, this server is then active. In the settings of the VIDEOPHONE software itself, the address 127.0.0.1 can then be used as the VoIP server - on other participating devices, the LAN IP address of the computer must be inserted instead.

The VoIP server comes with the following predefined VoIP accounts: 101 to 120 for VoIP participants (where the password is always equal to the VoIP ID by default) and 901-910 for external call stations (also with password equal to VoIP ID e.g. VoIP ID 901 with password 901, VoIP ID 909 with password 909).

If personalised settings are required, please contact our support.

5 Appendix

5.1 IMPORTANT TERMS

VoIP: "Voice over IP" is an international standard; like the name already says, it allows speech communication through the network. Initially developed for internet phoning, this technology is used also in other areas, for example for telephone exchange systems or videophone systems.

VoIP-Server: This VoIP server is a software which manages the calls of the individual clients present in the network, just like a telephone switchboard; the identification of this VoIP server takes place through the IP address of the hardware on which the VoIP server is running. In a network, several VoIP servers can coexist without any problems. It is only important that all clients and each software that should communicate among each other, are using the same VoIP server. On Windows OS, a small VoIP server can be installed together with the Videophone-Software.

Client: as client we define nothing else than a software or a device which is able to register on the VoIP server and afterwards can receive and make calls; DIVUS VIDEOPHONE for example is such a client. Each client is identified by a 3 digit number (101,102,103...) and can be reached by calling this number.

Videophone-Box: the Videophone-Box is a hardware, which converts the analog signals of the video intercom to LAN signals and enters into interaction with the VoIP server. Simultaneously, the Videophone-Box makes available the camera picture of the door station as a network stream which can be accessed at any time by the individual clients through the Videophone-Software (provided that the video signal is active permanently).

DIVUS VIDEOPHONE: software for the communication with the intercom system and visualization of the camera picture of the door camera, as well as for the communication of the individual clients among each other.

a/b phone signal: internationally standardized signal (analogous telephone signal), as it is used by customary analogous telephones.

DTMF signal: "Dual-Tone-Multi-Frequency" is a standardized process to transmit the chosen telephone number to the telephone network. Every number / character corresponds to a certain tone which consists of several frequencies and is recognized from standardized switchboards and the telephone network. The a/b transformer modules, to which the Videophone-Box is connected, also use this technology in order to execute an action over the conveyed DTMF signal (for example to activate the door opener). Usually only short sign combinations, mostly even just individual numbers, are used on that occasion. The a/b transformer module of BPT for example opens the door if it receives the number "2" from the client as a DTMF signal during an active communication.

Network stream: essentially it is a data flow that can be accessed through the network. In case of the Videophone-Box we are speaking about still image collected from the Videophone-Box that are called from DIVUS VIDEOPHONE as data flow and are displayed in the main window of DIVUS VIDEOPHONE as a video.

GUI: „Graphical User Interface“. term for a graphical interface through which the user can command the software.

UDP: „User Datagram Protocol“. UDP is a simplified network protocol which is also used by many VoIP servers for communication through SIP protocol.

SIP: The "Session Initiation Protocol" is a global standard used in VoIP communication. In general it's used by VoIP-Servers for managing the call in a VoIP system or for IP-IP calls by the devices themselves. The SIP Protocol is a UDP telegram based protocol, which normally uses Port 5060 for communication. DIVUS VIDEOPHONE, Videophone-Box and OPRNDOOR support the SIP protocol and can so be integrated in SIP based systems.

OPENDOOR: OPENDOOR is the IP based door communication system from DIVUS. The loudspeaker module OD-Sip in fact is a SIP phone optimized for door communication in software and hardware. The OPENDOOR door station can be power supplied and connected to the network over the same network cable if PoE ("Power over Ethernet") is available. Since OPENDOOR is also using the SIP standard it can integrated in SIP systems directly without any conversion modules.

