POLYCOM®

ViewStation FX and VS4000 Remote Control API

Important Information

Warning

This is a Class A product. In a domestic environment, this product may cause radio interference in which case the user may be required to take adequate measures.

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You shall not and shall not allow any third party to 1) decompile, disassemble, or otherwise reverse-engineer or attempt to reconstruct or discover any source code or underlying ideas or algorithms of the software by any means whatsoever or 2) remove any product.

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Important Safeguards

Read and understand the following instructions before using the system:

- Close supervision is necessary when the system is used by or near children. Do not leave unattended while in use.
- Only use electrical extension cords with a current rating at least equal to that of the system.
- Always disconnect the system from power before cleaning and servicing and when not in use.
- Do not spray liquids directly onto the system when cleaning. Always apply the liquid first to a static free cloth.
- Do not immerse the system in any liquid or place any liquids on it.
- Do not disassemble this system (except as instructed in the manufacturer's instructions). To reduce the risk of shock and to maintain the warranty on the system, a qualified technician must perform service or repair work.
- Connect this appliance to a grounded outlet.
- In case of lightning storms, disconnect the telephone line cord from the system, and only connect the system to surge protected power outlets.
- Keep ventilation openings free of any obstructions.
- SAVE THESE INSTRUCTIONS.

Regulatory Notices

FCC Notice

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

Changes or modifications not expressly approved by Polycom could void the user's authority to operate this equipment.

- This equipment complies with Part 68 of the FCC Rules. On the bottom of this equipment is a label that contains, among other information, the FCC registration number and Ringer Equivalence Number (REN) for this equipment. If requested, provide this information to your telephone company.
- Before connecting your unit, you must inform your telephone company of the following information:

Port ID	REN/SOC	USOC
PRI ISDN Interface	6.0N	RJ45C
Loop Start ("POTS" Port)	0.5	RJ11C

- FCC compliant telephone cords and modular plugs are provided with this equipment. This equipment is designed to be connected to the telephone network or premises' wiring using a compatible modular jack, which is Part 68 compliant. See installation instructions for details.
- The REN is useful to determine the quantity of devices that may be connected to the telephone line. Excessive REs on the telephone line may result in the devices not ringing in response to an incoming call. In most, but not all areas, the sum of REs of all devices that may be connected to a line, as determined by the total RENs, contact the local telephone company.
- If your FX or VS4000 causes harm to the telephone network, the telephone company will notify you in advance that temporary discontinuance of service may be required. However, if advance notice is not practical, you will be notified as soon as possible. You will be advised of your right to file a complaint with the FCC if you believe it is necessary.

- Your telephone company may make changes in its facilities, equipment, operations, or procedures that could affect the operation of your equipment. If it does, you will be given advance notice so as to give you an opportunity to maintain uninterrupted service.

- If you experience trouble with this equipment, please contact your equipment provider for repair/warranty information. If your equipment is causing harm to the telephone network, the telephone company may request that you disconnect the equipment until the problem is resolved.

- There are no user serviceable parts inside the videoconferencing unit, remote control, microphone pod, or power supply.

- This equipment may not be used on a public coin service provided by the telephone company. Connection to party lines is subject to state tariffs. Contact your state public utility commission or corporation commission for information.

Underwriters' Laboratories' Statement

The system is intended to be powered only by the supplied power supply unit.

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Remote Control API

This document describes the CGI-based remote control application programming interface (API). This API is a set of commands implemented within the shell. The commands are available for advanced users to automate some of the control features of the ViewStation FX and VS4000. This API can be used via a telnet session. In addition, these commands are also available via the RS-232 interface.

It is presumed that the users are familiar with WEB programming, specifically the CGI POST command and its use from the application programming language of their choice.

Syntax Summary

The following syntactic notation is used for the shell control commands.

String parameters to be supplied by the user are denoted with quoted strings (example, "symbol"). In general, parameters are supplied from a set of defined string values that are specifically enumerated. These values are command specific.

Parameter values are summarized in cases where the supplied values can assume a wide range of values that are not practical to enumerate.

The notation **<N>** is used as an alternate parameter form, when the value required is a single numeric digit. If the values of this parameter are limited to a particular numeric range (example 1-3), then the range will be discussed.

The notation **<NNN>** indicates a numeric parameter composed of up to three digits.

If a parameter is optional, it is presented within square brackets (example ["optional parameter"]).

A variable number of optional parameters are presented with ellipsis (example "param1", "param2", …).

Note   All defined commands are case sensitive.

Commands

This section describes each shell command and its parameter. All commands are listed with its parameters spelled out.

abk

This command displays local address book entries in batches of 10.

Format
abk batch <N>

Displays Nth batch of local address book entries. N can range from 0 to 59.

answer

This command answers incoming video or POTS calls.

Format
answer phone

Answer incoming POTS call.

Format
answer video

Answer incoming video call.

button

This command allows the user to send the same command as the Polycom remote control to the user interface. The command is not checked prior to being sent to the user interface. Care should be used because a bong (a warning noise) sound is sent from the ViewStation FX or VS4000 if there is not a function for that button on the currently active screen.

Format

 button "symbol" ["symbol", …]

 where "symbol" is one of the following:

```
#          - Issues a # key to the user interface.
*          - Issues a * key to the user interface.
1          - Issues a 1 key to the user interface.
2          - Issues a 2 key to the user interface.
3          - Issues a 3 key to the user interface.
4          - Issues a 4 key to the user interface.
5          - Issues a 5 key to the user interface.
6          - Issues a 6 key to the user interface.
7          - Issues a 7 key to the user interface.
8          - Issues a 8 key to the user interface.
9          - Issues a 9 key to the user interface.
0          - Issues a 0 key to the user interface.
auto       - Sends the Auto key to the user interface.
callhangup- Sends the call/hangup key to the user interface.
down       - Sends the down key to the user interface.
far        - Sends the far key to the user interface.
info       - Sends the info command to the user interface.
left       - Sends the left, (left arrow) command to the user inter-
             face.
menu       - Sends the menu key to the user interface causing the main
             screen to be the currently viewed screen.
mute       - Sends the mute key to the user interface causing a toggle
             of mute state.
near       - Sends the near key to the user interface.
right      - Sends the right key to the user interface.
select     - Sends the select key (center button) command to the user
             interface.
slides     - Sends the slide key to the user interface.
snapshot   - Sends the snapshot key to the user interface.
up         - Sends the up (up arrow) key to the user interface.
volume+    - Sends the volume up key to the user interface.
volume     - Sends the volume down key to the user interface.
zoom+      - Sends the zoom in key to the user interface.
zoom       - Sends the zoom out key to the user interface.
```

Example

```
button up
```

This command sends the up command to the user interface.

camera

This command controls the position of the near end camera, and the view (camera input) that is presented.

Format
camera "ctrl" "ctrlData"

Where "ctrl" and "ctrlData" are one of the following:

```
far <N>             - Select far camera view (Camera source 1-5)
near <N>            - Select near camera view (Camera source 1-3)
far move left       - Far camera direction change (start moving
                        left)
far move right      - Far camera direction change (start moving
                        right)
far move up         - Far camera direction change (start moving up)
far move down       - Far camera direction change (start moving
                        down)
far move zoom+      - Far camera direction change (start zooming
                        in)
far move zoom-      - Far camera direction change (start zooming
                        out)
far move stop       - Far camera direction change movement stops
                        near move left- Near camera direction change
                        (start moving left)
near move right     - Near camera direction change (start moving
                        left)
near move up        - Near camera direction change (start moving
                        up)
near move down      - Near camera direction change (start moving
                        down)
near move zoom+     - Near camera direction change (start zooming
                        in)
near move zoom-     - Near camera direction change (start zooming
                        out)
near move stop       - Near camera direction change stops (stops)
```

The "pan" commands are deprecated. Use "camera near move" instead.

```
pan left    - Camera direction change (start panning left)
pan right   - Camera direction change (start panning right)
pan up      - Camera direction change (start panning up)
pan down-   Camera direction change (start panning down)
pan left-   Camera direction change (start panning left)
pan right-  Camera direction change (start panning right)
pan stop-   Camera direction change movement stops
```

Example

```
camera 2
```

This command causes the remote terminal to begin sending its camera 2.

Example

```
camera far move left
```

This command causes the far camera to start panning to the left.

Example

```
camera near move zoom+
```

This command causes the near camera to zoom in.

chaircontrol

This command is used for various chair control functions while the ViewStation FX/VS 4000 is in an MCU call.

Format

chaircontrol "ctrl" "ctrlData"

Where "ctrl" and "ctrlData" are one of the following:

```
rel_chair               - Release chair
req_chair               - Request chair
req_term_name <term_no> - Request terminal name for terminal numbered
                            <term_no>
req_vas                 - Request voice activated switching

req_floor               - Request floor
view <term_no>          - View terminal <term_no>
view_broadcaster        - View broadcaster
list_terminals          - List terminals in conference
set_broadcaster <term_no>- Request terminal <term_no> become the broad
                            caster
set_term_name "term_name"- Set terminal name (to MCU)
set_password "password"  - Set needed password for conferences
del_term <term_no>       - Delete terminal <term_no> from conference
end_conf                 - End conference
```

dial

This command lets you dial video or audio calls either manually or from the address book. Three different commands are shown below.

Format 1

dial addressbook "dialstring"

Where "dialstring" is the name of a valid address book entry.

Format 2

dial manual "speed" (2x64, 384 etc) "dialstring_1" "dialstring_2"
(optional)

Where "dialstring_1" and "dialstring_2" are valid switched or IP
directory numbers and speed is equal to a valid data rate for the
network provided.

Format 3

dial phone "dialstring"

Where "dialstring" is a valid POTS directory number.

Example
```
dial phone 555-1212
dial manual 2x64 5551212 5551213
dial addressbook Monday_meeting
```

dir

List all flash files or optionally list files which partially match "string."
No wild cards are allowed.

Format

dir "string" (optional)

Example
```
dir *.dat
```

display call

This interface provides call ID, status, speed, and the number this
system is connected to.

Format

display call

Example
```
display call
```

displaybolt <n>

This command sets the frequency at which the lightning bolt packet loss indicator is displayed. Use a negative integer to display a lightning bolt each time N packets are lost, or use a positive integer to display the lightning bolt when N percent of packets are lost.

Format
displaybolt <N>

Example
displaybolt 5

The lightning bolt is displayed when 5% of the packets are lost.

Example
displaybolt -50

The lightning bolt is displayed after 50 packets are lost.

exit

This command ends a command session.

Format
exit

Example
exit

get screen

This command returns the name of the current screen.

Format
get screen

hangup

This command disconnects the current video or audio call.

Format 1
hangup phone

Hangs up the current audio call.

Format 2

hangup video

Hangs up the current video call.

hires

This command sets or gets the high resolution status for cameras 1 through 4.

Format

hires <1 | 2 | 3 | 4><yes | no | get>

Example

```
hires 2 no
```

Example

```
hires 1 get
```

lanstat

This command disconnects the current video or audio call.

Format

lanstat "subcmd"

Where "subcmd" is one of the following:

```
misc            - Miscellaneous LAN/VLAN statistics
reset           - reset cumulative LAN statistics
sec             - Accumulating total of LAN stats for the current minute
tmin ({1..60}) - Same as min but only totals are displayed
total           - display cumulative LAN statistics
```

listen

This command registers the remote control session to listen for incoming video or POTS calls.

Format

listen phone

Listens for incoming POTS call.

Format

listen video

Listens for incoming video call.

pause

This command causes the command interpreter to pause before executing the next command. Pause is useful when commands are retrieved from a script file.

Format
pause <NNN>

In this example, the command pauses an integer <NNN> number of seconds before next command.

pip

This command sets the onscreen PIP mode directly.

Format
pip "mode"

Where "mode" can be either on, off, or auto.

preset

This command accesses the far and near camera presets. You can set or activate any of the 10 ViewStation FX or VS4000 presets as well as all of the remote system presets.

Format
preset "endPoint" "operation" N

Where "endPoint" and "operation" are one of the following:

```
far go <N>      - Select far end preset number <N>
far set <N>     - Set far end present number <N>
near go <N>     - Select near end present number <N>
near set <N>    - Set near end preset number <N>
```

Example
```
preset far set 1
```

The current location of the far end camera is saved in far slot 1.

Example
```
preset near go 1
```

The near (local) end camera moves to the location saved in near slot 1.

Examples
```
preset near set 0
```
The current location of the near end camera is saved in near slot 0.

rs232

This command changes the settings on the RS-232 port.

Format
rs232 passthrough <baud> <flowcontrol>

Example
```
rs232 passthru 9600 flowcontrol
```

run

This command loads a file from the flash file system and then executes the commands contained in it. Each command needs to be placed on a single line with a <CR><LF> as a terminator.

Format
run scriptfilename

Example
```
run startcall.bat
```

screen

This command causes a named screen to be the current screen on the ViewStation FX or VS4000.

Format
screen "screenName"
```
Where screenName is one of the following:
addressbook   - Address book screen
disableUI     - Turn off user interface
enableUI      - Turn on user interface
farvideo      - Far side video screen (only available when in
                 a call)
main          - User Interface Main Menu
nearvideo     - Near side video screen
speedial      - Speed Dial screen
```

Example
```
screen main
```

slides

This command is used to control the presentation of PowerPoint slides.

Format
slides "command" <param>"

Where "param" is relative to the command and "command" is one of the following:

```
first - First slide
last – Last slide
list (<N>) – List presentation names and IP address available
for viewing, all if N not specified
next - Next slide
password - Enter the presentation password
previous - Previous slide
resend - Resend last slide
select - Select a presentation from the list
start       - Display first slide
thumbnails  - Show thumbnail page
```

Examples
```
slides select 1
slides first
```

snapshot

This command generates a snapshot from one of the video input sources.

Format
snapshot <N>

Where N is one of the following:
```
0     - Snapshot far camera
1     - Snapshot near camera 1
2     - Snapshot document near camera 2
3     - Snapshot vcr near camera 3
4     - Snapshot auxiliary near camera 4
```

Example
```
snapshot 1
```

stdout

Turns on/off stdout to the current telnet session.

Format
stdout "cmd"

Example
```
stdout on
stdout off
```

stream

This command controls streaming from a ViewStation FX or VS4000.

Format
stream "cmd" "addr" "ttl" "vidPort" audPort" "vidCmpr" "audCmpr" "bitrate"

Example
```
stream start
stream out
```

techsupport

This command allows contact telephone number to be sent to Technical Support if the ViewStation FX or VS4000 is managed by GMS.

Format
techsupport "contact phone number"

Example
```
techsupport 512-555-1212
```

textinput

This command allows input of text into text fields found in the ViewStation FX or VS4000 user interface.

Format
textinput "string"

Example
```
textinput "this text to be inserted"
```

version

This command returns the current ViewStation FX or VS4000 version string.

Format
version

volume

This command is used to change the volume (audio, not sound effects) on the ViewStation FX or VS4000.

Format
volume "adj"

Where "adj" is from the following list:
```
up          - increases volume by 1
down        - decreases volume by 1
set <N>     - sets volume to specified level N, where N is an
              integer value from 0 to 24.
get         - displays the volume level currently set
query       - displays the volume level currently set
```

waitfor

This command is useful within script files (see run command) to wait for a specific event before executing the next statement. This command causes the shell to wait until a call being placed either connects or is aborted. This command can be used to synchronize a remote controller with the ViewStation FX or VS4000. The shell echoes the message "call complete" when the call connects or is aborted.

Format
waitfor "event"

Where event is from the following list:
callcomplete
systemready

Example
```
waitfor callcomplete
```