HELP FILE DOCUMENT

Manufacturer: Panasonic / Sennheiser
Model: AW-HExxx / TCC2
Device Type: Microphone Camera Control

CONTACT SUPPORT: (please fill out carefully)

COMPANY NAME:	K2 AV Consult
SUPPORT CONTACT:	Norbert Kalff
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PHONE:	+49 151 58362685
ADDRESS:	Germany
NOTES:	

GENERAL INFORMATION

SIMPLWINDOWS NAME:	pmt_TCC_to_CAM_m_V1.8.3
CATEGORY:	Conferencing
VERSION:	1.8.3
SUMMARY:	The Elevation and Azimuth signals are assigned to predefined Zones and activate corresponding camera presets. Four adjustable parameters take care of a smooth camera movement.
GENERAL NOTES:	Use actual modules from Sennheiser and Panasonic for communication and control of their devices.
CRESTRON HARDWARE REQUIRED:	3-Series Processor, 4-Series Processor
SETUP OF CRESTRON HARDWARE:	Assign corresponding IP-Adresses
VENDOR FIRMWARE:	N/A
VENDOR SETUP:	See description below
CABLE DIAGRAM:	Standard CAT.x cables for all devices

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CONTROL:

TtoC_I_Zones_used	**A**	**Number of zones actually used** **Number of zones initialized when triggering "TtoC_I_Reset_evenly"** **When unlicensed, module uses 3 zones**
TtoC_Beam_Azimuth	A	Azimuth value (0-359) from TCC2
TtoC_Beam_Elevation	A	Elevation value (0-90) from TCC2
TtoC_Audio_LeveldB	A	Audio level reported from microphone
TtoC_I_Reset_evenly	D	Sets "Zones_Used" equal sized Zones horizontal from 0° to 359°, 20°<=Ele<=70° (see parameters)
TtoC_AUTO_set	D	Start audiotracking
TtoC_AUTO_reset	D	Stop audiotracking With a pair of buffers, you can manually call the camera presets
TtoC_Far_End_activ	D	Set zone to Home (after StabiWaitTime) on PUSH Checks the zone again on RELEASE
TtoC_HomeMax	A	Number of zone-changes during StabiWaitTime to switch to "dialog" home preset (Preset7)
TtoC_StabiWaitTime	A	Time (1/100s) until presetchange after zone change
TtoC_SilentWaitTime	A	Time (1/100s) until presetchange when audiolevel is low
TtoC_Audio_Level_min	A	Minimum Level to trigger zone-recognition
TtoC_I_Zone	A	Select zone to set limits
TtoC_I_AZI_MIN	A	Min. horizontal angle for selected zone
TtoC_I_AZI_MAX	A	Max. horizontal angle for selected zone
TtoC_I_ELE_MIN	A	Min. vertical angle for selected zone

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TtoC_I_ELE_MAX	A	Max. vertical angle for selected zone

FEEDBACK: (*examples below)

TtoC_License_ok	D	Indicates a valid license (see below)
TtoC_O_Zone	A	Indicates the last recognized zone
TtoC_is_AUTO		Automatic preset recognition is running
TtoC_is_MANUAL		Presets must be triggered manually
TtoC_O_AZI_MIN		Min. horizontal angle for selected zone
TtoC_O_AZI_MAX		Max. horizontal angle for selected zone
TtoC_O_ELE_MIN		Min. vertical angle for selected zone
TtoC_O_ELE_MAX		Max. vertical angle for selected zone

TESTING: (please fill out carefully)

OPS USED FOR TESTING:	RMC4 2.7000.00031
SIMPL WINDOWS USED FOR TESTING:	4.17.0003
DEVICE DB USED FOR TESTING:	200.130.003.00
CRES DB USED FOR TESTING:	209.00.002.000
SIMPL WIN LIBRARY FOR TESTING:	508
SAMPLE PROGRAM:	pmt_TCC_to_CAM v1_8_3 Demo RMC4.smw
REVISION HISTORY:	v1.0 – Initial Release
V1_8_3	Improvement in timing behavior, added block for short noises, added

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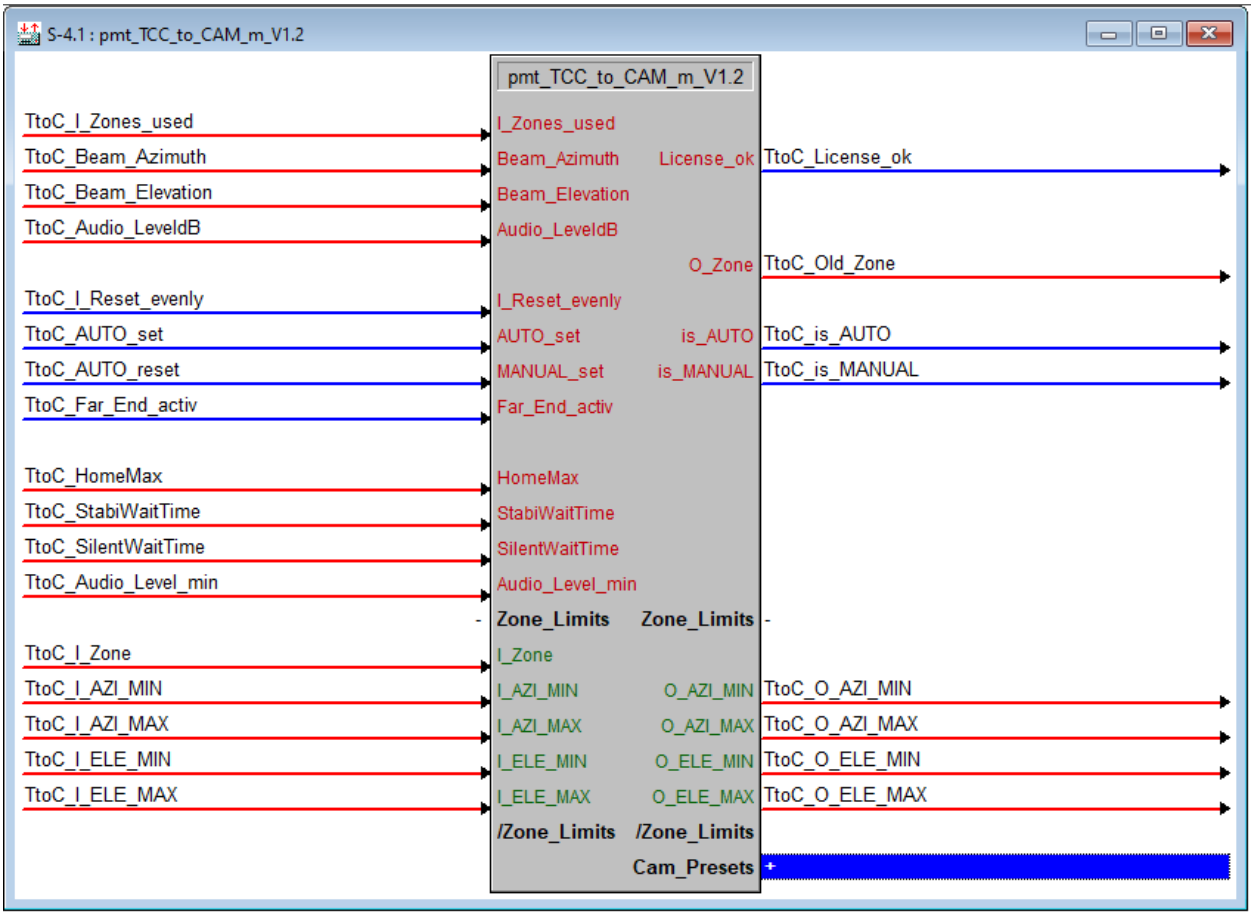
"far_end_active", useable for audio-dsp or manual long shot.



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HOW TO START WITH THE DEMO PROGRAM:

Assign the following IP-Adresses to your devices:

Control Prozessor	IP: 192.168.123.101
Sennheiser TCC2 Mic.	IP: 192.168.123.214
Panasonic PTZ-Camera	IP: 192.168.123.216

or CHANGE THE IP-ADRESSES in the following Symbols:

Sennheiser TCC2 Mic.	S-3.1 Sennheiser TCC2 v2.00.00
Panasonic PTZ-Camera (right click\Configure…)	Slot-02.IP-ID31: CAMera HE38 Control Slot-02.IP-ID32: CAMera HE38 Status
XPanel Host-Settings	Set IP-Adress of control processor

Get your License

After the first start send a copy of the file “Internal Flash\User\LicenseRequest.pau” with your billing-and contact information to our Email-Address cn.licenserequest@pauly.de. After receiving the license-key-file License.pau copy it to the same directory.

An unlicensed modul will ignore the “Zones_Used” Parameter and work with three zones only. If your work in simulation-mode, you might want to adapt zones 1 to 3 with the Touchpanel or in SIMPL-WIN S-4.7.3 to 5.

A licensed modul can handle up to 20 zones. It can be upgraded to more in a “build_to_order” version.

Adapt your Touchpanel

Add your controls data into the IP-table of your Touchpanel (IP-ID-34 by default), or modify the host-settings of the Xpanel (IP-ID-33 by default) when needed.

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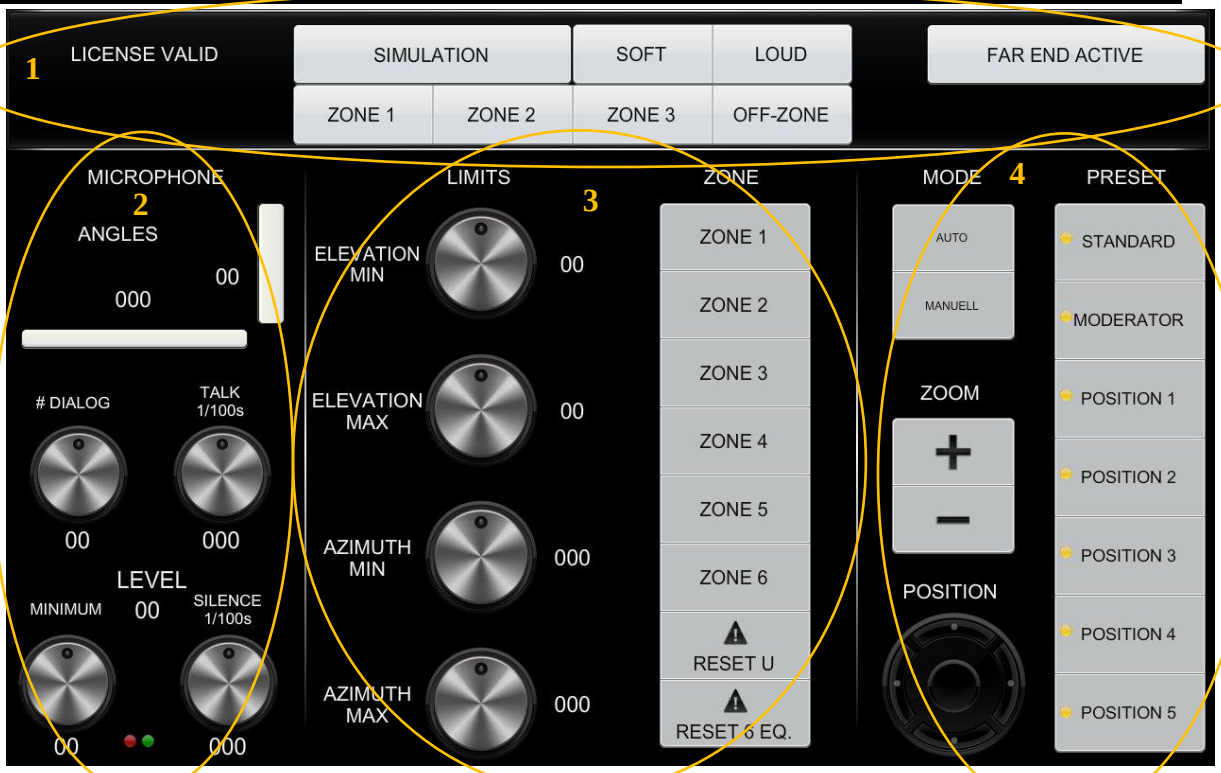
USER INTERFACE:



The UI of the demo program is divided in 4 major parts:

1: LICENSE INFO AND SIMULATION

LICENSE VALID	Indicates a valid license (see below)
SIMULATION	Separates the connection between microphone and zone module.
ZONE 1 … OFF-ZONE	Send predefined elevation and azimuth values to zone-module
SOFT - LOUD	Sets the zone-modules input level to -75dB (SOFT) and -20dB (LOUD). MINIMUM LEVEL should be set to a value in between (see below)
FAR END ACTIVE	Simulates the Far_End_active-signal that can be used to recall the home position.

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2: MICROPHONE INFO AND CONTROL PARAMETERS	
ANGLES	Elevation (vertical) and Azimuth (horizontal) of the zone module. The data from the microphone is shown when SIMULATION is off and AUTO is on.
# DIALOG	A smaller number causes a fast dialog recognition (home position), a bigger number a slower one. Default is 4.
TALK	Time in 1/100s that the module waits for the next change of zone before moving the camera. Default is 240.
LEVEL MINIMUM	Sets the minimum level for signal that are processed by the zone module. Be aware of a lag in signal processing. Softer noises can trigger a preset change at the end of talking.
LEVEL SILENCE	Time in 1/100s that the module waits to call the home preset when no more signals above the minimum are detected.

3: ZONE CONTROL	
PRELIMINARY REMARK	Zones are defined by two pairs of polar coordinates, one vertical (elevation, 0° to 90°) and one horizontal (azimuth, 0° to 359°). Please see Sennheiser TCC2 documentation for more details.
ELEVATION MIN/MAX	Definition of the vertical limits of a zone.
AZIMUTH MIN/MAX	Definition of the horizontal limits of a zone.
ZONE 1 .. 6	Select to set or show the limits of a zone. In simulation mode, these buttons also simulate pairs of elevation/azimuth coordinates.
RESET U	Resets all 6 zones to fit a U-shaped table (30° to 322° horizontal)
RESET 6 EQ.	Reset all 6 zones to 60° (h) parts from 20° to 70° vertical

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4: CAMERA CONTROL	
MODE AUTO	In auto mode, the data of the microphone (or the simulation when activated) is send to the zone-module, which generates preset recalls dependent on the control parameters. The PRESET-, ZOOM- and POSITION-buttons are disabled.
MODE MANUAL	In manual mode, the data of the microphone (or the simulation when activated) is blocked. The PRESET-, ZOOM- and POSITION-buttons are enabled and used to control the camera.
ZOOM	+: Zoom closer, everything becomes bigger -: Zoom farer, everything becomes smaller Only enabled in manual mode.
POSITION	Moves the camera to the pressed direction up/down/left/right. Set the speed of movement in the camera software or with additional Crestron programming using the Panasonic-Crestron-Module)
PRESETS	The buttons recall a corresponding camera-preset. MODERATOR recalls preset 6 in the demo program. STANDARD recalls preset 7 in the demo program. It should be a preset showing all participants. This preset is recalled in dialog-situations, after a longer period of silence or when the far end is active. The yellow LED-style indicators show the zone that the audiotracking-modul has detected.

SETUP OF ZONES AND CAMERA PRESETS:

MICROPHONE and CAMERA SETUP

- Make sure that 0° of the TCC2 is pointing towards the display.
- Make sure that the TCC2 and the control-processor are communicating. Put the system in auto mode and switch off simulation mode. The ELEVATION, AZIMUTH and LEVEL should be moving on the UI. Watch them either on the UI or open Sennheiser Control Cockpit:

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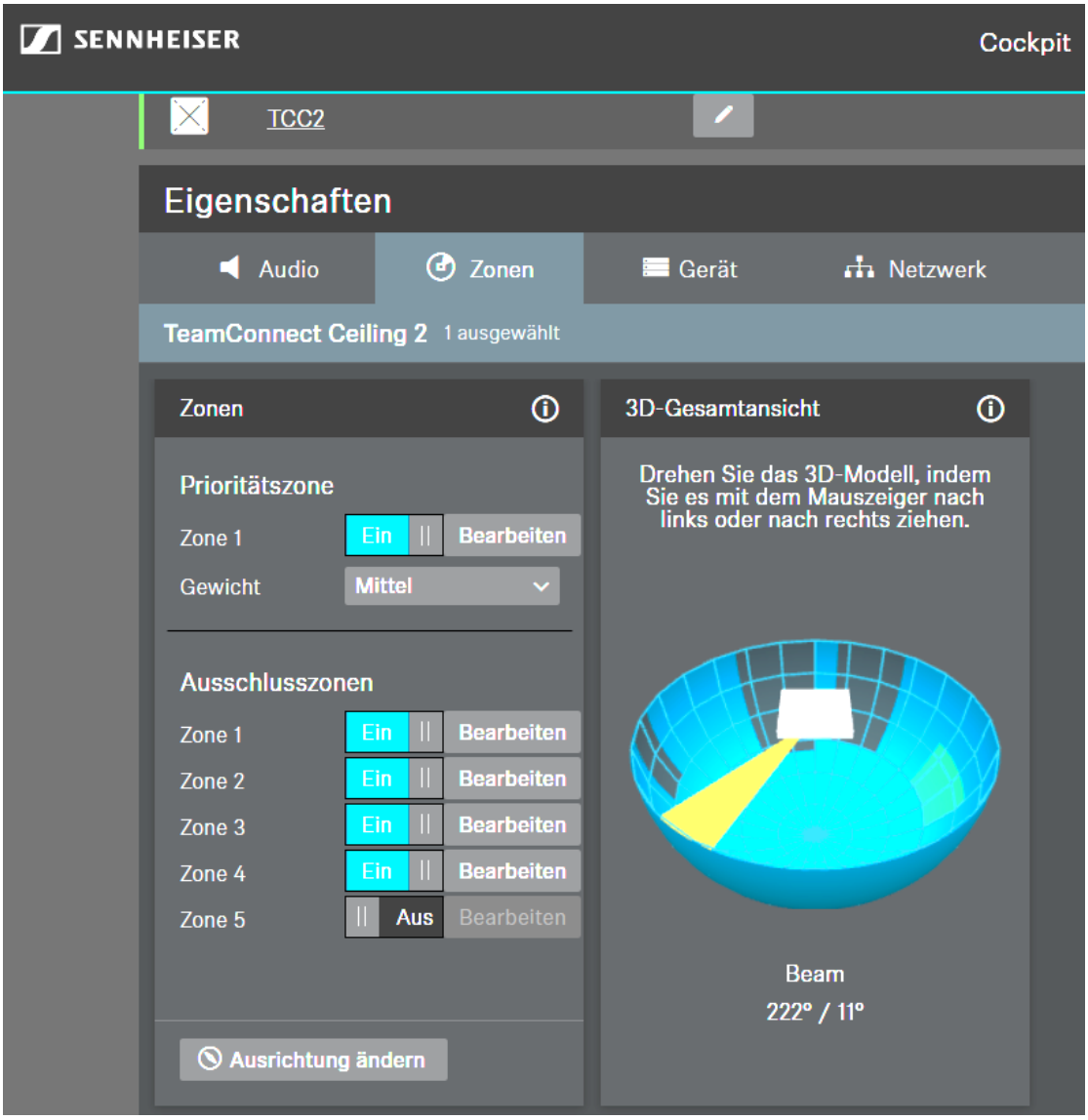

- Place a talker in the first zone and note azimuth and elevation. Add a margin as needed and set the limits by pressing the “ZONE 1” button first and then adjusting the four limits of the zone. Adjust camera position and zoom and store it as preset 1. Repeat for the next four zones.
- As the sixth preset-button is named “MODERATOR”, one single person should be shown here. You can specify this place in the Sennheiser TCC2 setup as priority zone.
- Adjust camera to a position that shows all participants and store it into preset 7

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WORKING WITH THE SYSTEM:

Activate MANUAL mode and check the camera presets by pushing the corresponding buttons.
Activate the AUTO mode and adjust the modules control parameters to your needs.
In case the AUTO mode does not work as you wish, for example because of background noise, try to improve the microphone-setup with the Sennheiser Control Cockpit (see Sennheiser Manual for details), and try to improve the performance by modifying the control-parameters. In the case that this happens during a video-meeting, switch back to MANUAL and recall the needed presets with the UI.

CONTACT INFORMATION:

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PHONE:	+49 6431 5004-67
TO GET THE NEWEST VERSION	https://www.pauly.de/microphone-based-camera-control