Partner: Sennheiser
Model: ADN
Device Type: Audio Teleconference

GENERAL INFORMATION:

SIMPLWINDOWS NAME:	Sennheiser ADN V1.2
CATEGORY:	Conference
VERSION:	v1.2
SUMMARY:	This macro controls the Sennheiser conference system via TCP/IP.
GENERAL NOTES:	This macro controls the Sennheiser conference system via TCP/IP. The macro offers functionality to activate/deactivate microphones, raise and lower the volume, adjust the low-, mid- and high tones. It is possible to change the max speakers at the same time, the amount of talk time and the XLR settings. **The start_module input this signal needs to be pulsed before the client start to use the module.**
CRESTRON HARDWARE REQUIRED:	2/3 series processor with Ethernet interface.
SETUP OF CRESTRON HARDWARE:	Connect the Crestron Processor to the same network as the Sennheiser AND Device. Port: 53252
VENDOR FIRMWARE:	Unknown
VENDOR SETUP:	Connect the Crestron Processor to the same network as the Sennheiser AND Device

CONTROL:

Start_Module	D	Pulse to start the module. **This signal needs to be pulsed before the client start to use the module.**
Stop_Module	D	Pulse to stop the module. This **need** to be triggered before stopping the Crestron program.
Init_System	D	Pulse to initialize the system.
Poll_ADN_State	D	Pulse to poll the status information of the Sennheiser ADN Device?
Conference_Auto_Mode	D	Pulse to select automatic conference mode.
Conference_Overrun_Mode	D	Pulse to select overrun conference mode.
Conference_Request_Mode	D	Pulse to select request conference mode.
Conference_Push_To_Talk_Mode	D	Pulse to select push to talk conference mode.
All_Mics_Off	D	Pulse to turn all the microphones off.
Blink_During_Request_On	D	Pulse to make the Led on the microphone blink during a request.
Blink_During_Request_Off	D	Pulse to make the led on the microphone not blink during a request.
Clear_Speaker_During_Request_On	D	Pulse to clear the speaker every time during a request.
Clear_Speaker_During_Request_Off	D	Pulse to not clear the speaker every time during a request.
Switching_Volume_Mic_Active	D	Pulse to activate the switchable microphone volume.
Switching_Volume_Mic_Not_Active	D	Pulse to deactivate the switchable microphone volume.
Hard_CutOff_Expiration_Talktime_On	D	Pulse to activate the hard-cutoff after expiration of the talk time.
Hard_CutOff_Expiration_Talktime_Off	D	Pulse to deactivate the hard-cutoff after expiration of the talk time.
Talk_Time_Limit_Active	D	Pulse to activate the limit of talk time.
Talk_Time_Limit_Not_Active	D	Pulse to deactivate the limit of talk time.
Limit_of_Talktime_Up	D	Pulse to raise the talk time limit (each pulse will increase the limit with '1').
Limit_of_Talktime_Down	D	Pulse to lower the talk time limit (each pulse will decrease the limit with '1').

Max_Open_Mic_Up	D	Pulse to raise maximum amount of open microphones at the same time (each pulse will increase the maximum amount with '1').
Max_Open_Mic_Down	D	Pulse to lower maximum amount of open microphones at the same time (each pulse will decrease the maximum amount with '1').
Max_Speak_Req_List_Lenght_Up	D	Pulse to raise maximum amount of requests in the request-list (each pulse will increase the maximum requests with '1').
Max_Speak_Req_List_Lenght_Down	D	Pulse to lower maximum amount of requests in the request-list (each pulse will decrease the maximum requests with '1').
Premonition_Time_Up	D	Pulse to raise the premonition time.
Premonition_Time_Down	D	Pulse to lower the premonition time.
XLR_Mix_Minus_On	D	Pulse to activate the XLR Mix Minus.
XLR_Mix_Minus_Off	D	Pulse to deactivate the XLR Mix Minus.
XLR_In_Status_On	D	Pulse to activate the XLR-input status.
XLR_In_Status_Off	D	Pulse to deactivate the XLR-input status.
XLR_Out_Status_On	D	Pulse to activate the XLR-output status.
XLR_Out_Status_Off	D	Pulse to deactivate the XLR-output status.
Floor_High_Equalizer_Up	D	Pulse to raise the High frequencies of the floor equalizer.
Floor_High_Equalizer_Down	D	Pulse to lower the High frequencies of the floor equalizer.
Floor_Mid_Equalizer_Up	D	Pulse to raise the Mid frequencies of the floor equalizer.
Floor_Mid_Equalizer_Down	D	Pulse to lower the Mid frequencies of the floor equalizer.
Floor_Low_Equalizer_Up	D	Pulse to raise the Low frequencies of the floor equalizer.
Floor_Low_Equalizer_Down	D	Pulse to lower the Low frequencies of the floor equalizer.
Floor_Mix_Up	D	Pulse to raise the floor mix.
Floor_Mix_Down	D	Pulse to lower the floor mix.
Floor_Volume_Up	D	Pulse to raise the floor volume.
Floor_Volume_Down	D	Pulse to lower the floor volume.

XLR_In_Sensitivity_Up	D	Pulse to raise the sensitivity of the XLR-input.
XLR_In_Sensitivity_Down	D	Pulse to lower the sensitivity of the XLR-input.
XLR_In_High_Equalizer_Up	D	Pulse to raise the High frequencies of the XLR-input equalizer.
XLR_In_High_Equalizer_Down	D	Pulse to lower the High frequencies of the XLR-input equalizer.
XLR_In_Mid_Equalizer_Up	D	Pulse to raise the Mid frequencies of the XLR-input equalizer.
XLR_In_Mid_Equalizer_Down	D	Pulse to lower the Mid frequencies of the XLR-input equalizer.
XLR_In_Low_Equalizer_Up	D	Pulse to raise the Low frequencies of the XLR-input equalizer.
XLR_In_Low_Equalizer_Down	D	Pulse to lower the Low frequencies of the XLR-input equalizer.
XLR_Out_Volume_Up	D	Pulse to raise the XLR-output volume.
XLR_Out_Volume_Down	D	Pulse to lower the XLR-output volume.
XLR_Out_High_Equalizer_Up	D	Pulse to raise the High frequencies of the XLR-output equalizer.
XLR_Out_High_Equalizer_Down	D	Pulse to lower the High frequencies of the XLR-output equalizer.
XLR_Out_Mid_Equalizer_Up	D	Pulse to raise the Mid frequencies of the XLR-output equalizer.
XLR_Out_Mid_Equalizer_Down	D	Pulse to lower the Mid frequencies of the XLR-output equalizer.
XLR_Out_Low_Equalizer_Up	D	Pulse to raise the Low frequencies of the XLR-output equalizer.
XLR_Out_Low_Equalizer_Down	D	Pulse to lower the Low frequencies of the XLR-output equalizer.
[Mic_ButtonX]	D	Pulse to activate/make a request for microphone XX, range XX: 1 to 50.
Limit_Of_Talktime	A	Analog input to set the maximum of talk-time. Range: 0 to 60. Each value is defines in minutes. When the value is set to '0', the talk time is unlimited.
Max_Open_Mic	A	Analog input to set the maximum of open microphones. Range: 1 to 10.
Max_Speak_Req_List_Length	A	Analog input to maximum amount of requests in the request-list. Range: 0 to 10.
Premonition_Time	A	Analog input to set the premonition time. Range: 1 to 13. Each **value** is equal to a specific time: 1 ➔ 0 sec. 2 ➔ 10 sec. 3 ➔ 20 sec. 4 ➔ 30 sec. 5 ➔ 40 sec.

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		6 → 50 sec. 7 → 60 sec. 8 → 70 sec. 9 → 80 sec. 10 → 90 sec. 11 → 100 sec 12 → 110 sec 13 → 120 sec.
Floor_High_Equalizer	A	Analog input to set the High frequencies of the floor equalizer. Range: 1 to 25. Each **value** is equal to a specific decibel: 1 → +12dB 2 → +11dB 3 → +10dB 4 → +9dB 5 → +8dB 6 → +7dB 7 → +6dB 8 → +5dB 9 → +4dB 10 → +3dB 11 → +2dB 12 → +1dB 13 → +0dB 14 → -1dB 15 → -2dB 16 → -3dB 17 → -4dB 18 → -5dB 19 → -6dB 20 → -7dB 21 → -8dB 22 → -9dB 23 → -10dB 24 → -11dB 25 → -12dB
Floor_Mid_Equalizer	A	Analog input to set the Mid frequencies of the floor equalizer. Range: 1 to 25, each **value** is equal to a specific decibel. See Floor_High_Equalizer for the **value** reference.
Floor_Low_Equalizer	A	Analog input to set the Low frequencies of the floor equalizer. Range: 1 to 25, each **value** is equal to a specific decibel. See Floor_High_Equalizer for the **value** reference.
Floor_Mix	A	Analog input to set audio gain reduction. Range: 1 to 8, each **value** is equal to a specific decibel: 1 → +0dB 2 → +0.5dB 3 → +1dB 4 → +1.5dB 5 → +2dB 6 → +2.5dB 7 → +3dB 8 → Linear Division

Floor_Volume	A	Analog input to set the floor volume. Range: 0 to 32.
XLR_In_Sensitivity	A	Analog value to set the sensitivity of the XLR-input. Range: 0 to 25. Each **value** is equal to a specific dBU: 1 ➔ -18dBU 2 ➔ -16.5dBU 3 ➔ -15dBU 4 ➔ -13.5dBU 5 ➔ -12dBU 6 ➔ -10.5dBU 7 ➔ -9dBU 8 ➔ -7.5dBU 9 ➔ -6dBU 10 ➔ -4.5dBU 11 ➔ -3dBU 12 ➔ -1.5dBU 13 ➔ +0dBU 14 ➔ +1.5dBU 15 ➔ +3dBU 16 ➔ +4.5dBU 17 ➔ +6dBU 18 ➔ +7.5dBU 19 ➔ +9dBU 20 ➔ +10.5dBU 21 ➔ +12dBU 22 ➔ +13.5dBU 23 ➔ +15dBU 24 ➔ +16.5dBU 25 ➔ +18dBU
XLR_In_High_Equalizer	A	Analog value to set the High frequencies of the XLR-input equalizer. Range: 1 to 25, each **value** is equal to a specific decibel. See Floor_High_Equalizer for the **value** reference.
XLR_In_Mid_Equalizer	A	Analog value to set the Mid frequencies of the XLR-input equalizer. Range: 1 to 25, each **value** is equal to a specific decibel. See Floor_High_Equalizer for the **value** reference.
XLR_In_Low_Equalizer	A	Analog value to set the Low frequencies of the XLR-input equalizer. Range: 1 to 25, each **value** is equal to a specific decibel. See Floor_High_Equalizer for the **value** reference.
XLR_Out_Volume	A	Analog value to set the volume of the XLR-output. Range: 1 to 32, each **value** is equal to a specific decibel: 1 ➔ -20dB 2 ➔ -19dB 3 ➔ -18dB 4 ➔ -17 5 ➔ -16dB 6 ➔ -15 7 ➔ -14dB 8 ➔ -13dB 9 ➔ -12dB 10 ➔ -11dB 11 ➔ -10dB 12 ➔ -9dB

		13 ➔ -8dB 14 ➔ -7dB 15 ➔ -6dB 16 ➔ -5dB 17 ➔ -4dB 18 ➔ -3dB 19 ➔ -2dB 20 ➔ -1dB 21 ➔ +0dB 22 ➔ +1dB 23 ➔ +2dB 24 ➔ +3dB 25 ➔ +4dB 26 ➔ +5dB 27 ➔ +6dB 28 ➔ +7dB 29 ➔ +8dB 30 ➔ +9dB 31 ➔ +10dB 32 ➔ +11dB
XLR_Out_High_Equalizer	A	Analog value to set the High frequencies of the XLR-output equalizer. Range: 1 to 25, each **value** is equal to a specific decibel. See Floor_High_Equalizer for the **value** reference.
XLR_Out_Low_Equalizer	A	Analog value to set the Low frequencies of the XLR-output equalizer. Range: 1 to 25, each **value** is equal to a specific decibel. See Floor_High_Equalizer for the **value** reference.

FEEDBACK:

Module_Is_started	D	High to indicate that the module is started.
Module_Is_Stopped	D	High to indicate that the module is stopped.
Busy	D	High to indicate that Sennheiser is processing the commands.
Conference_Is_In_Auto_Mode	D	High to indicate that the automatic conference mode is selected.
Conference_Is_In_Overrun_Mode	D	High to indicate that the overrun conference mode is selected.
Conference_Is_In_Request_Mode	D	High to indicate that the request conference mode is selected.
Conference_Is_In_Push_To_talk_Mode	D	High to indicate that the push to talk conference mode is selected.
Blink_During_Request_Is_On	D	High to indicate that the Led on the microphone will blink during a request.
Clear_Speaker_During_Request_Is_On	D	High to indicate that the speaker will be cleared during a request.
Switching_Volume_Mic_Is_Active	D	High to indicate that volume switching of the microphone is active.
Hard_CutOff_Expiration_Talktime_Is_On	D	High to indicate that the hard cutoff is on after expiration of the talk time.
Talk_Time_Limit_Is_Active	D	High to indicate that the time limit is active.
XLR_Mix_Minus_Is_On	D	High to indicate that the XLR mix is active.
XLR_In_Status_Is_On	D	High to indicate that the XLR-input Status is active.
XLR_Out_Status_Is_On	D	High to indicate that the XLR-output Status is active.
Client_Status_Analog	A	Analog value indicating the connection status.
Limit_Of_Talktime_Ananlog	A	Analog value indicating the maximum talk-time. Each value is defines in minutes. When the value is '0', the talk time is unlimited.
Max_Open_Mic_Analog	A	Analog value indicating the maximum open microphones.
Max_Speak_Req_List_Length_Ananlog	A	Analog value indicating the maximum microphones being in the request list.
Premonition_Time_Ananlog	A	Analog value indicating the premonition time. Range: 1 to 13. Each **value** is equal to a specific time. See Premonition_Time for the **value** reference.
Floor_High_Equalizer_Analog	A	Analog value indicating the High frequencies of the floor equalizer. Range: 1 to 25, each **value** is equal to a specific decibel. See Floor_High_Equalizer for the **value** reference.

Floor_Mid_Equalizer_Analog	A	Analog value indicating the Mid frequencies of the floor equalizer. Range: 1 to 25, each **value** is equal to a specific decibel. See Floor_High_Equalizer for the **value** reference.
Floor_Low_Equalizer_Analog	A	Analog value indicating the Low frequencies of the floor equalizer. Range: 1 to 25, each **value** is equal to a specific decibel. See Floor_High_Equalizer for the **value** reference.
Floor_Mix_Ananlog	A	Analog value indicating the Audio gain reduction. Range: 1 to 8, each **value** is equal to a specific decibel. See Floor_Mix for the **value** reference.
Floor_Volume_Analog	A	Analog value indicating the floor volume. Range: 0 to 32.
XLR_In_Sensitivity_Analog	A	Analog value indicating the sensitivity of the XLR-input. Range: 0 to 25. Each **value** is equal to a specific dBU. See XLR_In_Sensitivity for the **value** reference.
XLR_In_High_Equalizer_Analog	A	Analog value indicating the High frequencies of the XLR-input equalizer. Range: 1 to 25, each **value** is equal to a specific decibel. See Floor_High_Equalizer for the **value** reference.
XLR_In_Mid_Equalizer_Analog	A	Analog value indicating the Mid frequencies of the XLR-input equalizer. Range: 1 to 25, each **value** is equal to a specific decibel. See Floor_High_Equalizer for the **value** reference.
XLR_In_Low_Equalizer_Analog	A	Analog value indicating the Low frequencies of the XLR-input equalizer. Range: 1 to 25, each **value** is equal to a specific decibel. See Floor_High_Equalizer for the **value** reference.
XLR_Out_Volume_Analog	A	Analog value indicating the XLR-output volume. Range: 1 to 32, each **value** is equal to a specific decibel. See XLR_Out_Volume for the **value** reference.
XLR_Out_High_Equalizer_Analog	A	Analog value indicating the High frequencies of the XLR-output equalizer. Range: 1 to 25, each **value** is equal to a specific decibel. See Floor_High_Equalizer for the **value** reference.
XLR_Out_Mid_Equalizer_Analog	A	Analog value indicating the Mid frequencies of the XLR-output equalizer. Range: 1 to 25, each **value** is equal to a specific decibel. See Floor_High_Equalizer for the **value** reference.
XLR_Out_Low_Equalizer_Analog	A	Analog value indicating the Low frequencies of the XLR-output equalizer. Range: 1 to 25, each **value** is equal to a specific decibel. See Floor_High_Equalizer for the **value** reference.
[Mic_Button_StatusXX_Analog]	A	Analog value indicating the status of microphone XX. Range XX: 0 to 50. Value range: 1 → Microphone is on. 2 → Microphone (on) is muted. 3 → Microphone (on) is premonition. 4 → Microphone (on) is premonition muted. 5 → Microphone (on) is in overrun. 6 → Microphone (on) is in overrun muted. 7 → Microphone is off.

		8 ➜ Microphone (off) is in request. 9 ➜ Microphone is in mapping mode. 10 ➜ Microphone calibration service. 11 ➜ Mapping mode request.
Lapsed_Talk_TimeXX_Text	S	Serial value indicating the lapsed talk time of microphone XX. Range XX: 1 to 10.

PARAMETERS:

Port	A	Decimal value containing the port for the TCP/IP connection. The default port for the Sennheiser device is 5325.
IP Address	S	Serial value containing the IP Address of the Sennheiser CU device.

TESTING:

OPS USED FOR TESTING:	PRO2: 4.003.0015 MC3: 1.002.000
SIMPL WINDOWS USED FOR TESTING:	3.10.20
CRESTRON DB USED FOR TESTING:	30.01.004.00
DEVICE DB USED FOR TESTING:	40.01.004.00
SAMPLE PROGRAM:	Sennheiser ADN V1.2 Demo PRO2 Sennheiser ADN V1.2 Demo MC3
REVISION HISTORY:	V. 1.2

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