

Partner: Powersoft
Model: K-Series and Duecanali
Device Type: Amplifier

**GENERAL INFORMATION:**

SIMPLWINDOWS NAME:	Powersoft K-Series and Duecanali v1.0
CATEGORY:	Amplifier
VERSION:	V1.0
SUMMARY:	This macro handles the communication between the Powersoft K-series amplifier and the Crestron processor via UDP connection.
GENERAL NOTES:	<p>This macro handles the communication between the Powersoft K-series amplifier and the Crestron processor via UDP connection.</p> <p>The macro offers the functionality to power On/Off the system, to increase-decrease and mute every channel, Select different presets and retrieve information concerning the working of the amplifier (Temperatures, Impedance, Voltages, ...).</p>
CRESTRON HARDWARE REQUIRED:	2/3 series processor
SETUP OF CRESTRON HARDWARE:	Connect the 2/3 series processor to the Ethernet interface of the Powersoft K-Series amplifier with a standert CAT5 cable.
VENDOR FIRMWARE:	V1.0.1
VENDOR SETUP:	<p>Connect the 2/3 series processor to the Ethernet interface of the Powersoft K-Series amplifier with a standert CAT5 cable.</p> <p>UDP port = 8002</p>

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CONTROL:

Request_All_Info	D	Pulse to retrieve all the information of the amplifier.
Poll_Status_Enable	D	High to poll the status information of the amplifier.
UNIT_On	D	Pulse to turn on the amplifier (this only works when there is 12V/1500mA connected to the VEXT input).
UNIT_Off	D	Pulse to turn off the amplifier (this only works when there is 12V/1500mA connected to the VEXT input).
Toggle_On/Off	D	Pulse to toggle the power status of the amplifier (this only works when there is 12V/1500mA connected to the VEXT input).
Mute_All_Ch_On	D	Pulse to mute all the output channels.
Mute_All_Ch_Off	D	Pulse to unmute all the output channels.
Toggle_Mute_All_Ch	D	Pulse to toggle the mute status of all the amplifier channels.
Turn_Volume_Up_All_Ch	D	Pulse to raise the volume of all the amplifier channels.
Turn_Volume_Down_All_Ch	D	Pulse to lower the volume of all the amplifier channels.
Ch1_Mute_On	D	Pulse to mute channel 1.
Ch1_Mute_Off	D	Pulse to unmute channel 1.
Ch1_Toggle_Mute	D	Pulse to toggle the mute status of channel 1.
Ch1_Turn_Volume_Up	D	Pulse to raise the volume of channel 1.
Ch1_Turn_Volume_Down	D	Pulse to lower the volume of channel 1.
Ch2_Mute_On	D	Pulse to mute channel 2.
Ch2_Mute_Off	D	Pulse to unmute channel 2.
Ch2_Toggle_Mute	D	Pulse to toggle mute status on channel 2.
Ch2_Turn_Volume_Up	D	Pulse to raise the volume of channel 2.
Ch2_Turn_Volume_Down	D	Pulse to do lower the volume of channel 2.
Analog-In_Direct_To_Power_Out	D	Pulse to route the signal directly from analog inputs to power outputs.
Analog-In_Via_Dsp_To_Power_Out	D	Pulse to route the signal from analog inputs to power outputs through DSP processor.

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Aes3-In_Direct_To_Power_Out	D	Pulse to route the signal directly from Aes3 input to power outputs.
Aes3-In_Via_Dsp_To_Power-Out	D	Pulse to route the signal from Aes3 input to power outputs through DSP processor.
Kaesop-In_Via_Dsp_To_Power-Out	D	Pulse to route the signal from KAESOP input to power outputs through DSP processor.
Preset_Up	D	Pulse to go 1 preset up, range: 0 to 50 presets.
Preset_Down	D	Pulse to go 1 preset down, range: 0 to 50 presets.
Get_Preset_List	D	Pulse this will refresh the list of presets names from the amplifier.
Poll_Vu-Meter_Enabled	D	Pulse to poll the unit for the Vu-meter information. Keep high to poll the unit in regular intervals. The time between each interval is indicated by the "Pulse Time" parameter.
Req_Tone_Alarm_Status	D	Pulse to retrieve the status of the tone alarms.
Preset_Recall	A	Changing the value of this analog signal will change the actual preset of the amplifier; there are 50 presets available (from 0 to 49).
Rx\$	S	Needs to be connected with the RX\$ output of the UDP/IP Communications module.

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FEEDBACK:

Communication_Is_Busy	D	High to indicate that the module is communicating with the amplifier.
Ch1_Signal_Is_Present	D	High to indicate the presence of a signal on channel 1.
Ch2_Signal_Is_Present	D	High to indicate the presence of a signal on channel 2
Unit_Is_Powere	D	High to indicate that the amplifier is powered on.
All_Ch_Are_Muted	D	High to indicate that all channels are muted.
Ch1_Is_Muted	D	High to indicate that channel 1 is muted.
Ch2_Is_Muted	D	High to indicate that channel 2 is muted.
Analog-In_Is_Routed_To_Power-Out	D	High to indicate that the analog input signal is directly routed to the power outputs.
Analog-In_Is_Routed_Via_DSP_To_Power-Out	D	High to indicate that the analog input signal is routed to the power outputs via the DSP processor.
Aes3-In_Is_Routed_To_Power-Out	D	High to indicate that the Aes3 input signal is directly routed to the power outputs.
Aes3-In_Is_Routed_ViaDsp_To_Power-Out	D	High to indicate that the Aes3 input signal is routed to the power outputs via the DSP processor.
KAESOP-In_Is_Routed_Via_Dsp_To_Power-Out	D	High to indicate that the KAESOP input signal is routed to the power outputs via the DSP processor.
Retrieving_Presets	D	High to indicate that we are busy retrieving the preset list.
Ch2_DSP_Alarm_Is_Triggered	D	High to indicate that an alarm has been triggered on the DSP of channel 2.
Ch2_Alarm_Is_Triggered	D	High to indicate that an alarm has been triggered on channel 2.
Ch2_Is_In_HW/SW_Protection	D	High to indicate that the software or hardware protection has been activated on channel 2.
Ch2_Is_In_Protection	D	High to indicate that the channel 2 is in protection state.
Ch1_DSP_Alarm_Is_Triggered	D	High to indicate that an alarm has been triggered on the DSP of channel 1.
Ch1_Alarm_Is_Triggered	D	High to indicate that an alarm has been triggered on channel 1.
Ch1_Is_In_HW/SW_Protection	D	High to indicate that the software or hardware protection has been activated on channel 1.
Ch1_Is_In_Protection	D	High to indicate that the channel 1 is in protection state.

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Ch2_LoadAlarm_Is_Triggerd	D	High to indicate that there is an alarm on channel 2 load.
Ch2_Out_ToneAlarm_Is_Present	D	High to indicate that there is an alarm tone on channel 2 output.
Ch2_In_ToneAlarm_Is_Present	D	High to indicate that there is an alarm tone on channel 2 input.
Ch1_LoadAlarm_Is_Triggerd	D	High to indicate that there is an alarm on channel 1 load.
Ch1_Out_ToneAlarm_Is_Present	D	High to indicate that there is an alarm tone on channel 1 output.
Ch1_In_ToneAlarm_Is_Present	D	High to indicate that there is an alarm tone on channel 1 input.
Ch2_LoadAlarm_Is_Enabled	D	High to indicate that the load alarm is enabled on channel 2.
Ch2_OutToneAlarm_Is_Enabled	D	High to indicate that the alarm tone on the output is enabled on channel 2.
Ch2_InToneAlarm_Is_Enabled	D	High to indicate that the alarm tone on the input is enabled on channel 2.
Ch1_LoadAlarm_Is_Enabled	D	High to indicate that the load alarm is enabled on channel 1.
Ch1_OutToneAlarm_Is_Enabled	D	High to indicate that the alarm tone on the output is enabled on channel 1.
Ch1_InToneAlarm_Is_Enabled	D	High to indicate that the alarm tone on the input is enabled on channel 1.
Temperature_Analog	A	Analog value indicating the temperature of the amplifier expressed in °C.
Ready_Analog	A	Analog value containing the ready status of the channels: <ul style="list-style-type: none"> - Bit 0 identifies the mains presence (1) or absence (0). - Bit 1 identifies if the last ON/OFF set was ON (1) or OFF (0). - Bit 2 identifies the ready state of the module (1 if ready, 0 otherwise). - Bit 3 is used to determine if the device is ON (1) ore OFF (0). - Bit 5 is used to determine if channel 1 is in idle state (1) or not (0). - Bit 6 is used to determine if channel 2 is in idle state (1) or not (0).
Flags_Analog	A	Analog value containing the flags: <ul style="list-style-type: none"> - Bit 0 identifies signal presence (1) or absence (0) on channel 1. - Bit 1 identifies signal presence (1) or absence (0) on channel 2. - Bit 2 identifies if analog backup is needed (1) by kdsp or digital signal ok (0). Only FW 4.0.0 - Bit 3 identifies if analog backup is needed (1) by kaesop or digital signal ok (0). Only FW 4.0.0 - Bit 4 a key was pressed since last status read command. Only FW 4.0.0.
Impedance1_Analog	A	Analog value represents the current value of the impedance computed on channel 1. Converted value is expressed in Ohm/100.
Impedance2_Analog	A	Analog value represents the current value of the impedance computed on channel 2. Converted value is expressed in Ohm/100.

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Gain1_Analog	A	Analog value indicating the input gain on channel 1.
Gain2_Analog	A	Analog value indicating the input gain on channel 2.
OutVoltage1_Analog	A	Analog value indicating the maximum output voltage on channel 1.
OutVoltage2_Analog	A	Analog value indicating the maximum output voltage on channel 2.
MaxMains_Analog	A	Analog value indicating the maximum mains current.
Limiter_Analog	A	Analog value indicating the limiter status.
ModCounter_Analog	A	Analog value indicating the status modification counter.
Boards_Analog	A	Analog value indicating the boards presence state.
IdleTime_Analog	A	Analog value indicating the time span after which the device has to go idle.
Positive_Aux_Voltage_Analog	A	Analog value indicating the module positive auxiliary voltage.
Negative_Aux_Voltage_Analog	A	Analog value indicating the module negative auxiliary voltage.
Aux_5V_Analog	A	Analog value indicating the auxiliary analogical 5V voltage.
Mains_Voltage_Analog	A	Analog value indicating the mains voltage for one channel.
Mains_Current_Analog	A	Analog value indicating the mains current.
VExt_Analog	A	Analog value indicating the external voltage.
Positive_BusVoltage1_Analog	A	Analog value indicating the positive bus voltage of channel 1.
Negative_BusVoltage1_Analog	A	Analog value indicating the negative bus voltage of channel 1.
Positive_BusVoltage2_Analog	A	Analog value indicating the positive bus voltage of channel 2.
Negative_BusVoltage2_Analog	A	Analog value indicating the negative bus voltage of channel 2.
Status_Analog	A	Analog value indicating the inner status.
Led_Analog	A	Analog value indicating the temperature of the led status.
OutVolume_Analog	A	Analog value indicating the volume Value for all channels.
Ch1_OutVolume_Analog	A	Analog value indicating the volume Value for channel 1.

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Ch2_OutVolume_Analog	A	Analog value indicating the volume Value for channel 2.
Preset_Analog	A	Analog value indicating the current selected preset (from 0 to 49).
I-meter1_Analog	A	Analog value indicating the output of the current meter for channel 1.
V-meter1_Analog	A	Analog value indicating the value of the VU meter for channel 1.
I-meter2_Analog	A	Analog value indicating the output of the current meter for channel 2.
V-meter2_Analog	A	Analog value indicating the value of the VU meter for channel 2.
Protection_Analog	A	Analog value containing the status of the protection of the channels: <ul style="list-style-type: none"> - Bit 0 identifies if channel 1 is in protection state (1) or not (0). - Bit 1 identifies if channel 1 is in hardware (1) or software protection (0). - Bit 2 identifies if channel 1 has alarm triggered (any). - Bit 3 identifies if channel 1 has alarm triggered by DSP (tone in, tone out, z load). - Bit 4 identifies if channel 2 is in protection state (1) or not (0). - Bit 5 identifies if channel 2 is in hardware (1) or software protection (0). - Bit 6 identifies if channel 2 has alarm triggered (any). - Bit 7 identifies if channel 2 has alarm triggered by DSP (tone in, tone out, z load).
ProtectionCount_Analog	A	Analog value indicating the number of times the device has been in protection state since the last power cycle.
Connection_Status_Text	S	Serial signal indicating the status of the link between Crestron and Powersoft.
Firmware_Info_Text	S	Serial signal indicating the firmware information of the amplifier who is connected.
Preset_Name_Text	S	Serial signal indicating the name of the current selected preset.
PresetX_Text	S	Serial signal indicating the name of preset X, range: 1 to 50.
Tx\$	S	Needs to be connected with the RX\$ of the UDP/IP Communications module.

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**PARAMETERS:**

Device ID	Dec.	Parameter containing the device ID of the amplifier, Range: 00 – 99.
Pulse Time	Sec.	Parameter indicating the time between two poll commands when the 'Poll_Vu-Meter_Enabled.' is held high.

TESTING:

OPS USED FOR TESTING:	PRO2: 4.003.0015 MC3: 1.002.00
SIMPL WINDOWS USED FOR TESTING:	3.10.20
CRESTRON DB USED FOR TESTING:	29.02.103.00
DEVICE DB USED FOR TESTING:	39.00.005.00
SAMPLE PROGRAM:	Powersoft K-Series and Duecanali v1.0 PRO2 Powersoft K-Series and Duecanali v1.0 MC3
REVISION HISTORY:	V 1.0