HELP FILE DOCUMENT

Manufacturer: Powersoft S.p.A.
Model: Mezzo Series
Device Type: Amplifier

CONTACT SUPPORT: (please fill out carefully)

COMPANY NAME:	**Powersoft S.p.A.**
SUPPORT CONTACT:	**Michael S. Perry**
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NOTES:	**US Based Applications Engineer**

GENERAL INFORMATION

SIMPLWINDOWS NAME:	**Powersoft Mezzo v.1.20**
CATEGORY:	**Loudspeaker Power Amplifier**
VERSION:	v.1.0
SUMMARY:	This Module will control all Powersoft Mezzo Series Amplifiers. Within the module are digital inputs and outputs for mute control. There are analog inputs and outputs for each gain stage. There are also serial outputs for each gain stage to allow for text display feedback to the user. When Linked, this module reads the IP address, serial number, firmware version and allows the user to read and write the amplifier's Nickname. The connection type is UDP. The Mezzo receives its messages on Port 8002.
GENERAL NOTES:	The user can not connect to Mezzo with any other Application, including Powersoft Armonía software, while trying to control the amplifier with Crestron. The Mezzo only permits (1) UDP Connection at a time. The Serial Outputs associated with each gain stage will produce appropriate text feeback to be used in a GUI. The serial output Tx$ should be fed to the input of a UDP/IP Communications block configured to the static IP address of the Mezzo you wish to control communicating using Port 8002. Feed gain stages with whole positive numbers and configure the start position of any gain slider in VTProE to the Top. If the user configures the gain to a floating point decimal, such as 12.3 dBu and re-Links the Crestron program, the module will misinterpret the feedback as 15 dBu. The Crestron module and GUI system uses whole positive numbers.
CRESTRON HARDWARE REQUIRED:	Creston 3-Series processor; Used RMC3 for demo, Compiler Version: 3.03, Firmware Version: RMC3 1.601.3934.21185. Crestron TSW-760; Firmware Version: 2.001.0050, UI Version: 6831.35831, Core 3 UI Level 3.00.

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SETUP OF CRESTRON HARDWARE:	The network set up was created using Hostnames on a 192.168.1.X subnet. The network switch was a D-Link DGS-1210-10P.
VENDOR FIRMWARE:	Mezzo firmware v.1.0.122 or higher
VENDOR SETUP:	A Powersoft amplifier by default is set to receive an IP address from a DHCP server. If there is no DHCP server on the network, the amp will default to the IP subnet: 169.254.X.Y,. Where X and Y are variable and unique to each unit. It is recommended that the user set a static IP address on the Mezzo to be controlled. The programmer should download Powersoft Armonía software to configure the IP address. These are the steps to connect to the amplifier and read it's IP address: 1. Connect the amplifier, the control processor and the PC to the same network using network cable. 2. If there is no DHCP server available, set the PC Network Interface Card (NIC) to an address within the subnet 169.254.X.Y. Otherwise, skip to the next step. 3. Open Armonía Plus software and hit "Match", then "Discovery." The amp should appear under the list of amplifiers discovered on the network. By hovering the mouse over an amplifier it's current IP address will be displayed. These are the steps to set the amplifier IP address: 1. Click on and drag the amp from the Discovery column into the Workspace. 2. Click on "Config" and select the amplifier to be configured in the Workspace. 3. Under "Select Mode" choose "DHCP" if a DHCP Server is present on the network and the amplifier is due to have a dynamic address, or "Static" to assign a static IP address to the amp. The IP address must be a member of the subnet the control processor is operating within. 4. Click "Apply" and close Armonía Plus.
CABLE DIAGRAM:	Category 6+ cable, terminated according to T-568B using 8P8C Connectors.

CONTROL: (Inputs; Digital, Analog & Serial)

Signal/Function Name	*D,S,A*	*Digital, Serial, Analog signal property definition.*
Init_System	D	Initializes the system. Hold High for duration of module use.
AMP_Link	D	Read all mute, and gain stages from the amp, as well as IP, FW, Nickname & Serial Number.
Blink_On_System	D	Initializes the (5) second LED Blink Sequence.
Mute_On_Input_1~4	D	Engages mute for designated input on rising edge of signal.

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Mute_Off_Input_1~4	D	Disengages mute on designated input on rising edge of signal.
Mute_On_SRC1~4_OUTA~D	D	Engages mute for the matrix cross-point of designated source as it is routed to designated output A through D.
Mute_Off_SRC1~4_OUTA~D	D	Disengages mute for the cross-point of designated source as it is routed to designated output A through D.
Mute_On_Output_A~D	D	Engages mute on designated output with rising edge of signal.
Mute_Off_Output_A~D	D	Disengages mute on designated output with rising edge of signal.
POLL_FAN_ALARM	D	Polls the amplifier for the state of the Hardware Fan Alarm; 0 (fine), (1) fault.
POLL_TEMP_ALARM	D	Polls the amplifier for the state of the Hardware Temperature Alarm; 0 (fine), (1) fault.
ai_Input_1~4_Gain	A	Gain for input stage in dBFS. Scale is 0 dBFS (top) to -60dBFS (bottom). Feed whole numbers and attenuation will occur.
ai_Matrix_SRC1~4_OUTA~D_Gain	A	Gain for matrix cross-point Stage in dBFS. Scale is 0 dBFS (top) to -60dBFS (bottom). Feed whole numbers and attenuation will occur.
ai_Output_A~D_Gain	A	Gain for output stage in dBu. Scale is 15 dBu (top) to -60dBFS (bottom). Feed whole numbers, gain and attenuation will occur.
Nickname_TX	S	User entered Nickname string. Up to (80) characters.
Rx$	S	Serial data input coming from the Mezzo through UDP/IP Communications.

FEEDBACK: (Outputs; Digital, Analog, Serial)

fb_System_Busy	D	High when the system has been initialized and is active
fb_Mute_On_Input_1~4	D	Indicates the mute for the designated input is engaged.
fb_On_Matrix_SRC1~4_OUTA~D	D	Indicates the sute for the designated matrix cross-point is engaged.
fb_Mute_On_Output_A~D	D	Indicates the mute for the designated output is engaged.
ALARM_ON_FAN	D	Indicates the alarm for the Hardware Fan Fault is engaged
ALARM_ON_TEMP	D	Indicates the alarm for the Hardware Temperature Fault is engaged

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ao_Input_1~4_Gain_dB	A	Indicates the gain of the designated input gain stage.
ao_Matrix_SRC1~4_OUTA~D_Gain_dB	A	Indicates the gain of the designated matrix cross-point gain stage.
ao_Output_A~D_Gain_dB	A	Indicates the gain of the designated output gain stage.
so_Input_1~4_Gain_dB	S	Text for user interface indicating gain for the designated input gain stage in dBFS.
so_Matrix_SRC1~4_OUTA~D_Gain_dB	S	Text for user interface indicating gain for designated matrix cross-point gain stage in dBFS.
so_Output_A~D_Gain_dB	S	Text for user interface indicating gain for designated output gain stage in dBu.
IP_Address	S	Response from the amplifier of it's IP Address.
Nickname_RX	S	Response from the amplifier of it's Nickname.
IP_Address	S	Response from the amplifier of it's IP Address.
Serial_Number	S	Response from the amplifier of it's Serial Number.
Firmware	S	Response from the amplifier of it's Firmware Version
Tx$	S	Serial Data Transmission coming from the module to Mezzo through UDP/IP Communications.

TESTING: (please fill out carefully)

OPS USED FOR TESTING:	Windows 10 Professional, SIMPL Windows v.4.11.06, SIMPL+ v.4.04.01, coded using Microsoft Visual Studio Code v.1.42.1
SIMPL WINDOWS USED FOR TESTING:	4.11.06
DEVICE DB USED FOR TESTING:	111.00.001.00
CRES DB USED FOR TESTING:	85.00.001.00
SYMBOL LIBRARY USED FOR TESTING:	(Version of Symbol Library used to develop)
SAMPLE PROGRAM:	Powersoft Mezzo v.1
REVISION HISTORY:	Revision v.1.20

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