Partner: Biamp
Model: Tesira
Device Type: Digital Signal Processor

GENERAL INFORMATION

SIMPLWINDOWS NAME:	Biamp Tesira Command Processor IP v1.5
CATEGORY:	Mixer
VERSION:	1.5
SUMMARY:	This module controls all TCP/IP communication with the Biamp Tesira.
GENERAL NOTES:	This module controls all TCP/IP communication with the Biamp Tesira. The Biamp Tesira has the capabilities to allow multiple simultaneous IP connections to the same port and IP address. Because of this you can use multiple instances of the Biamp Tesira Command Processor IP v1.5 throughout your program. I have tested up to 15 instances (1500 Control Modules). You must use one TCP/IP client per instance of the Biamp Tesira Command Processor IP v1.5. There are 100 serial outputs on this module, one for each of up to 100 control modules. All responses from the Biamp are processed by this module and sent to the appropriate serial output for that module. When polling the Biamp for current status, you should poll for only the information you really need at the time. The more data points you poll for at one time, the longer it will take to get an update for any one data point. It should not normally be necessary to poll for all data points all the time. The Tesira has the ability to subscribe to receive unsolicited information, if the object that you are controlling has this capability, by pulsing the Poll signal, the control module will only request those run time queries that it needs, if any. This information is all contained in the Block properties field when developing the .tmf file within the Biamp Tesira Windows software. A .tmf file (Demo.tmf) was created for Crestron testing purposes and MUST be used for proper operation of the Biamp Tesira Demo program. Once the processing module has determined that it is communicating with the Biamp Tesira, it will allow initialization. When using multiple instances of the Biamp Tesira Command Processor IP v1.5 module, it is recommended that you only initialize one module at a time, and wait to initialize other instances until the subsequence module has finished its initialization process. When the Initialize input on the Biamp Tesira Command Processor IP v1.5 is pulsed, the Biamp Tesira Command Processor IP v1.5 module will send out initialization strings to each of the To_Module_* outputs, asking for the module to send its initialization commands. The control module will transmit the required commands back to the processor module on the To_Processor output. Once the control module receive all the responses it was looking for, it will instruct the processor module that it's initialization has been completed. The processor module will then request the next control modules initialization. The individual control modules can be connected in groups with empty gaps between the module connections. NOTE: If you put a 1 on the Initialize signal, when the module establishes communication with the Biamp Tesira, it will begin the initialization process. I only recommend this for system with a single instance of Biamp Tesira Command Processor IP v1.5. ***Because of the multi-module design, you can cause a lot of traffic on your system by triggering many input signals at the same time. If you have a lot of input signals to trigger at one time, be sure to pace the triggering of the signals allowing the controller to deal with the traffic. Keep in mind the***

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	modules, during the initialization process, will get the current state of each of your control points, So you do not need to duplicate this effort. If you have to put the control points into a default states for various room configurations, it is best to use the preset feature built into the Tesira. Trying to automate a preset using SIMPL logic will add a lot of traffic on your system, and will cause adverse effects. ***You should wait for all the processing modules to set "Is_Initialized" to high before attempting to control the Tesira. This is your indication that the Biamp programming is correct and ready to go.***
CRESTRON HARDWARE REQUIRED:	C2ENET-1/2
SETUP OF CRESTRON HARDWARE:	TCP/IP Port: 23 (Telnet)
VENDOR FIRMWARE:	Tesira Server - 2.3.0.24 Tesira Forte – 2.3.0.24

CONTROL:

Initialize	D	Once the processing module has determined that it is communicating with the Biamp Tesira, it will allow initialization. When using multiple instances of the Biamp Tesira Command Processor IP v1.5 module, it is recommended that you only initialize one module at a time, and wait to initialize other instances until the subsequence module has finished its initialization process. When the Initialize input on the Biamp Tesira Command Processor IP v1.5 is pulsed, the Biamp Tesira Command Processor IP v1.5 module will send out initialization strings to each of the To_Module_* outputs, asking for the module to send its initialization commands. The control module will transmit the required commands back to the processor module on the To_Processor output. Once the control module receive all the responses it was looking for, it will instruct the processor module that its initialization has been completed. The processor module will then request the next control modules initialization. The individual control modules can be connected in groups with empty gaps between the module connections. NOTE: If you put a 1 on the Initialize signal, when the module establishes communication with the Biamp Tesira, it will begin the initialization process. I only recommend this for system with a single instance of Biamp Tesira Command Processor IP v1.5.
From_Modules	S	Serial signal to be routed from all BiAmp control modules in the program.
{{TCP/IP_Client_>>_Connect-F}}	D	Digital signal to be connected from the Connect-F output on a TCP/IP Client symbol.
{{TCP/IP_Client_>>_status}}	A	Analog signal to be routed from the status output on a TCP/IP Client symbol.
{{TCP/IP_Client_>>_RX$}}	S	Serial signal to be routed from the RX$ output on a TCP/IP Client symbol.

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FEEDBACK:

Is_Initialized	D	Is set to high when all connected control modules have successfully indicated that they have received the required responses to its queries.
Is_Communicating	D	Is set to high when it has successfully established communication with the Biamp Tesira and is receiving appropriate responses.
To_Module_*	S	Serial signal to be routed to the From_Processor input on a single Biamp control module.
{{Connect_>>_TCP/IP_Client}}	D	Digital signal to be connected to the Connect input on a TCP/IP Client symbol.
{{TX$_>>_TCP/IP_Client}}	S	Serial signal to be routed to the TX$ input on a TCP/IP Client symbol.

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TESTING:

OPS USED FOR TESTING:	PRO2: 4.008.0008 CP3: 1.010.0060
SIMPL WINDOWS USED FOR TESTING:	4.02.56
CRES DB USED FOR TESTING:	50.00.004.00
DEVICE DATABASE:	63.05.006.00
SYMBOL LIBRARY USED FOR TESTING:	933
SAMPLE PROGRAM:	Biamp Tesira IP v1.5 Demo CP3 Biamp Tesira IP v1.5 Demo PRO2
REVISION HISTORY:	v1.0 – Initial Release v1.1 – Updated all of the control modules to unsubscribe prior to subscribing to fix RS232 initialization issues. Control modules have also been updated to disallow input control prior to control module being initialized. v1.2 – Fixed bug: If a message was received from Tesira that was between 240 and 256 bytes, the message was not properly formatted to be received by the control modules. The VoIP call status is the only message that fell within this range. v1.3 – Added Crestron recommended updates to change the methods used for handling messages from the device to account for variations between 2 and 3 series processors. v1.4 – For RS232 control, replaced individual “unsubscribe” commands in all control modules with a single “exit” command which unsubscribes from all messages. v1.5 – Fixed issue with Initialization when a “1” has been assigned to the initialize input signal.

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