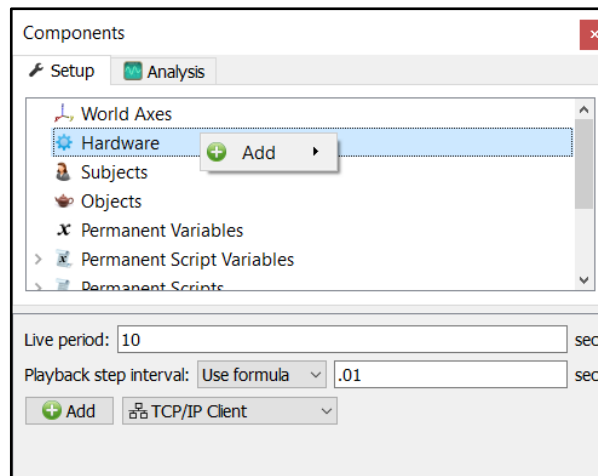


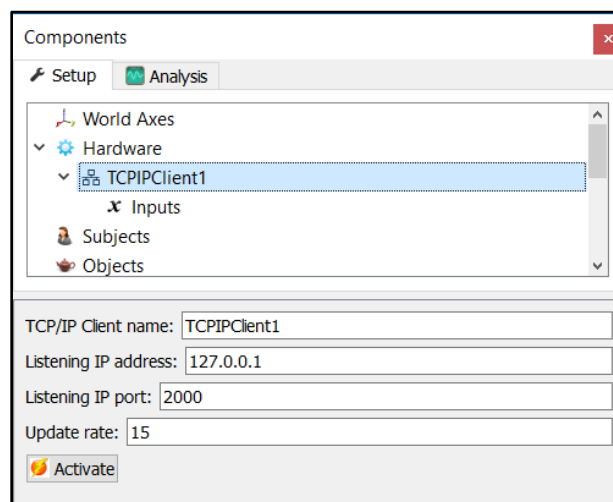
The MotionMonitor xGen Hardware Guide: Configuring TCP/IP Outputs

The following document outlines the steps required for configuring the output of data in real time using TCP/IP in The MotionMonitor xGen. When streaming to another computer, a straight-through ethernet cable should be used.

1. Start The MotionMonitor xGen and go to the Hardware node in the Setup Components window. Add the TCP/IP Client device from the “Add” button in the parameters panel at the bottom of the Components window or by right clicking the Hardware node and adding the device through the cascading drop list.

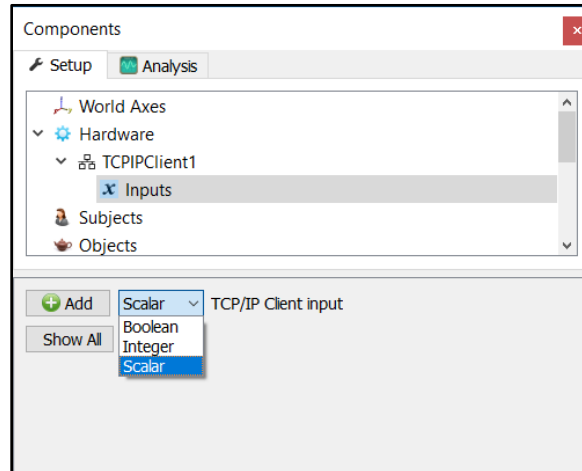


2. Click on the TCP/IP Client device to bring up the TCP/IP Client parameters panel. The default Listening IP address and Listening IP port are set for 127.0.0.1 and 2000, respectively. These values will need to be updated to meet the needs of your application. The update rate can also be modified to meet an application's needs for sending data out of The MotionMonitor xGen. Limits for the update rate would depend on other processing demands of your Workspace and available computer resources.

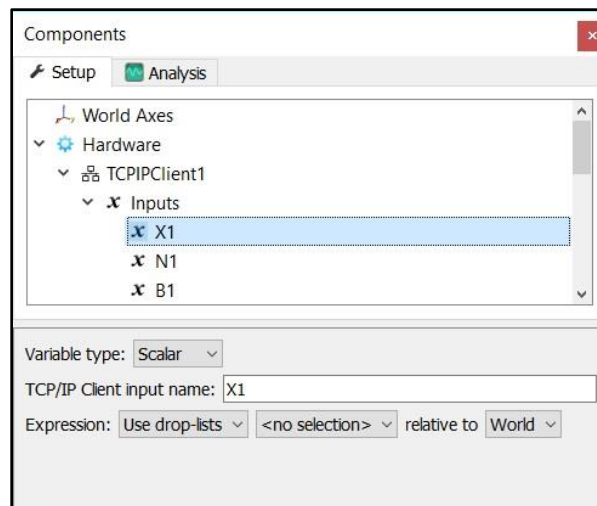


When the “Activate” button is clicked, data configured in the following steps will begin streaming out of The MotionMonitor xGen according to the parameters specified above.

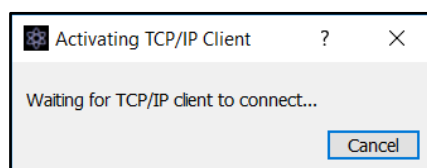
- Click on the Inputs node under the TCPIPClient to add variables to be streamed out of The MotionMonitor xGen. Supported data variable types for streaming via TCP/IP include Scalar, Integer and Boolean. A variable can be added by first selecting the data type from the TCP/IP Client input drop list in the Inputs parameters panel and clicking the “Add” button or by right clicking on the Inputs node under the TCPIPClient and adding the device through the cascading drop list.



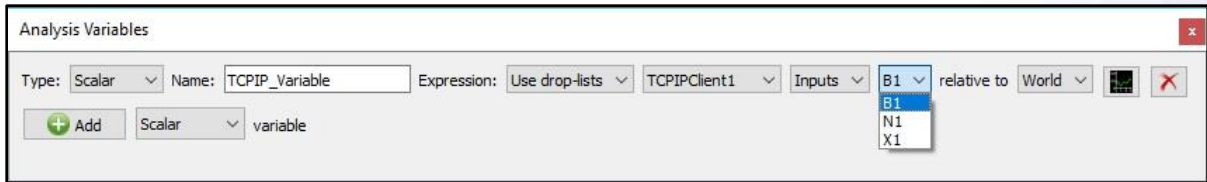
- After adding an Input to the TCPIPClient hardware device, the Variable type can be modified (Scalar, Integer or Boolean), the name can be updated and the variable expression defined, using the standard drop-list or formula methods. Each input is a stream of floating-point numbers whose order is determined by their arrangement under the TCPIPClient Inputs node. The order of inputs can be rearranged by dragging an Input name and dropping it into a new position.



- Click the “Activate” button to begin streaming data out of The MotionMonitor xGen. The following message will appear until the TCP/IP client connects.



6. Data being output via the TCP/IP Client hardware component can also be used in variables or graphed within The MotionMonitor xGen, as seen below.



Testing TCP/IP Outputs

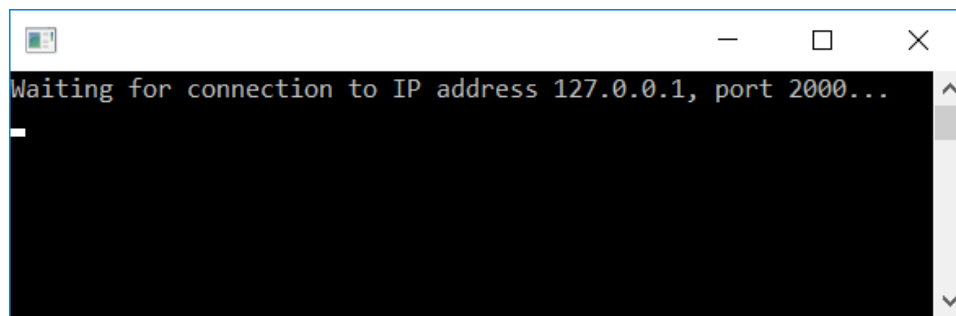
Testing of the TCPIPClient hardware component can be performed using one of the provided TCPIPClient. Please contact your Client Support Engineer if you do not have these testing files.

Each TCPIPClient Input variable is a stream of floating-point numbers whose order is determined by their arrangement under the TCPIPClient Inputs node. No header or labeling information is sent, just pure data.

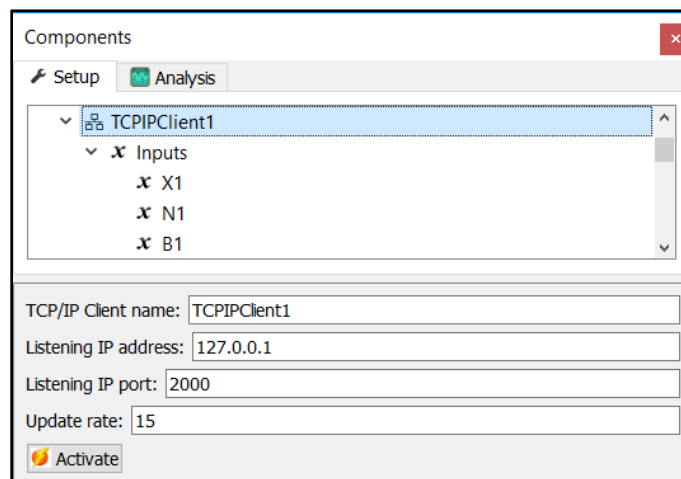
When the 3rd party application is on the same computer as The MotionMonitor xGen:

Use the TCPIPClient.zip. This folder contains a complete set of project files (built using VS2010) for a console application which establishes a TCP connection to The MotionMonitor xGen and receives and displays the data as they are sent. There is a Debug and Release subdirectory that contain executables for testing.

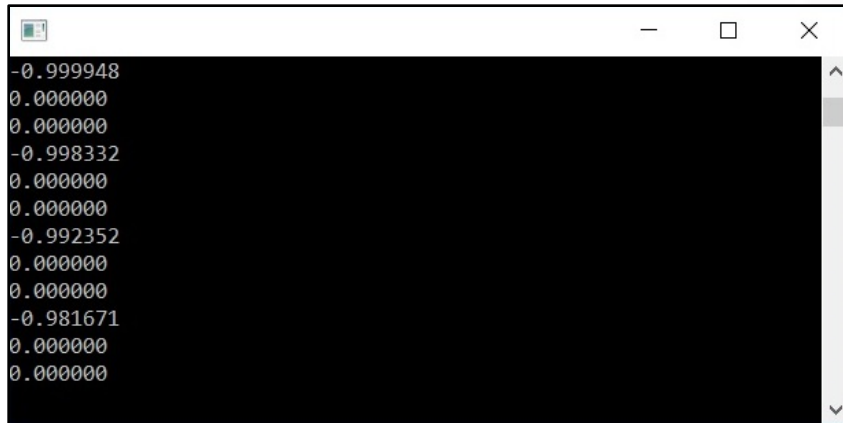
The TCPIPClient.exe application expects the data to be coming from an IP address of 127.0.0.1 and a Port value of 2000. When the application is run, the following message will be displayed.



The TCPIPClient parameters within The MotionMonitor xGen should be specified as shown below.



After clicking the “Activate” button, communication is established and data will begin to stream and be displayed within the TCPClient application.



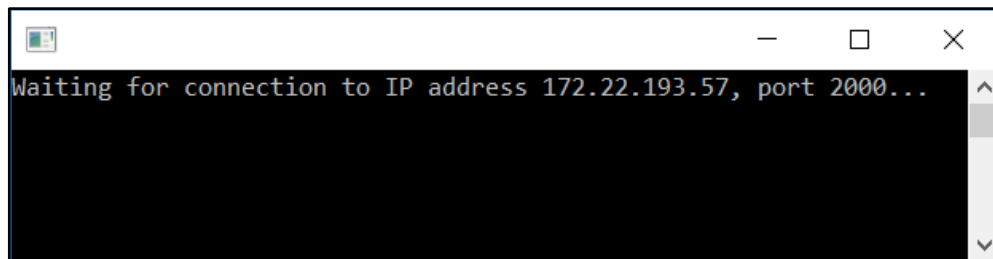
```
-0.999948
0.000000
0.000000
-0.998332
0.000000
0.000000
-0.992352
0.000000
0.000000
-0.981671
0.000000
0.000000
```

Deactivating the TCPIPClient component within The MotionMonitor xGen will close the TCPClient application.

When the 3rd party application is on a separate computer from The MotionMonitor xGen:

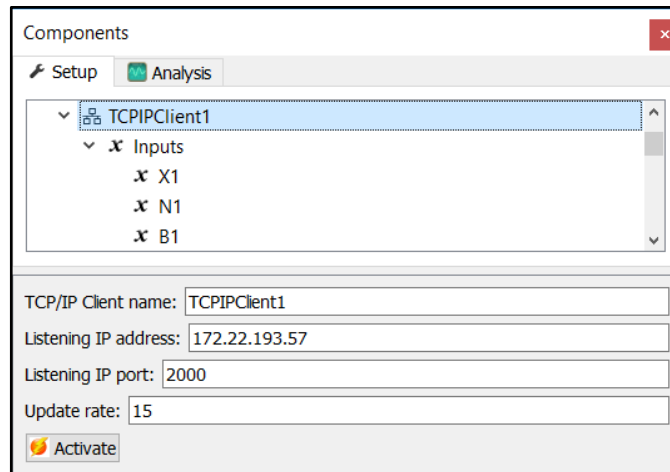
Use the TCPClient_External.zip. This folder contains a complete set of project files (built using VS2010) for a console application which establishes a TCP connection to The MotionMonitor xGen on a separate computer and receives and displays the data as they are sent. There is a Debug and Release subdirectory that contain executables for testing. A straight-through ethernet cable should be used.

The TCPClient.exe application assumes the IP address for The MotionMonitor xGen computer to be 172.22.193.57 and a Port value of 2000. When the application is run, the following message will be displayed.



```
Waiting for connection to IP address 172.22.193.57, port 2000...
```

The TCPClient parameters within The MotionMonitor xGen should be specified as shown below.



After clicking the “Activate” button, communication is established and data will begin to stream and be displayed within the TCPClient application.



Deactivating the TCPClient component within The MotionMonitor xGen will close the TCPClient application.