

The following commands are intended for the Vesta Laser Control System. The Vesta Laser Control System or “VestaSDK” uses TCP for remote communications. The port number can be found at C:\ProgramData\Waviks\Vesta\Calibration Files\Vesta.ini. If no port is specified, the default port is 6342.

Communications:

When sending commands to the VestaSDK which does not require a response, a successful response will return the command sent.

Initial communications test can be performed using the following:

Command: Vesta.System.Test

Response: Test Successful!!

A complete app restart can be performed with the following command:

Command: Vesta.System.Restart

Response: Restarting

System Command Set:

At any time you may perform the following command to “Emergency Stop” any motion or Laser functionality.

Command : Vesta.System.ESTOP

The Vesta Laser Control system utilizes a resistive probe touch to stage or chamber sensor. The status of this sensor can be read with the following command:

Command: Vesta.Motion.Touch

Response: True|False

VestaSDK can return individual axis encoder counts or all axes encoder counts with the following command:

Command: Vesta.Motion.Encoder.Read.[X|Y|Z|All]

Response: Encoder values of requested axis.

To determine the current motion status, use the following command:

Command: Vesta.Motion.Move.Status

Response: Moving | Idle

The Vesta Homing process will find the “Home” position for all axes based on the Home markers within the Vesta stages. To initiate the automated Homing process you may issue the following command:

Command: Vesta.Motion.Home.Begin

If you need to Abort the Homing process BEFORE it is complete, use the “**Vesta.System.ESTOP**” command.

The Vesta motors are capable of moving in a JOG/VELOCITY , STEP mode, or SCAN mode. For remote communications, only the fixed distance STEP and SCAN modes are permitted. Use the following select the mode.

Command: Vesta.Motion.Mode.Step

Command: Vesta.Motion.Mode.Scan

To initiate relative single axis relative moves:

Command: Vesta.Motion.Move.[X|Y|Z].Distance (in microns)

Example: Vesta.Motion.Move.X.100

To initiate absolute multi-axis moves:

Command: Vesta.Motion.Move.Absolute.[X Location],[Y Location],[Z Location]

Example: Vesta.Motion.Move.Absloute.0,0,0

Each Vesta axis has 2 limits, Forward and Reverse. The return will be in the format "Forward,Reverse" and will be either a "0" for triggered or "1" for open. To retrieve the value of the axis limits, issue the following command:

Command: Vesta.Motion.Limits.[X|Y|Z|All]

Return: 1,1

To obtain a list of Stored Locations, issue the following command,

Command: Vesta.Motion.SL.Names

Vesta utilizes Stored Locations to remember previous stored locations. To Select an existing saved location, issue the following command,

Command: Vesta.Motion.SL.Select.[Name]

You may view the encoder positions as specified by the Frame of Reference for a specific Stored Location by using the following command:

Command: Vesta.Motion.SL.Values

To add a new Stored Location, issue the following command:

Command: Vesta.Motion.SL.Add.[Name]

Example: Vesta.Motion.SL.Add.Test

To Edit an existing Stored Location, issue the following command:

Command: Vesta.Motion.SL.Edit.[Name]

Example: Vesta.Motion.SL.Edit.Test

To move the Vesta motors to a previously Saved Location, issue the following command:

Command: Vesta.Motion.SL.Goto

To Delete a Stored Location you must Select the Location to be deleted then issue the following command,

Command: Vesta.Motion.SL.Delete.[Name]

Example: Vesta.Motion.SL.Delete.Test

To select a Laser for operation, issued the following command:

Command: Vesta.Laser.Select.[None | 1 | 2 | 3]

Issue the following command for the Selected Laser Status.

Command: Vesta.Laser.Status

Return: Fault,Interlocks,Armed,Ready,Emission

To select the Laser Emission Type, issue the following command:

Command: Vesta.Laser.Emission.[Continuous | Pulse | Repetitive]

To Set the Pulse Width of the Selected Laser, issue the following command:

Command: Vesta.Laser.Parameters.PulseWidth.[Number including Units]

To Set the Frequency of the Selected Laser, Issue the following command:

Command: Vesta.Laser.Parameters.Frequency.[Frequency including Units]

To Set the Laser Current Percentage, issue the following command,

Command: Vesta.Laser.Parameters.Current.[0%-100%]

To Get the Laser Wavelength, issue the following command,

Command: Vesta.Laser.Parameters.Wavelength

To Trigger the Selected Laser to FIRE, issue the following command:

Command: Vesta.Laser.Fire[True | False]