

# Types of Graphs and Charts

MEMS 1049 Mechatronics

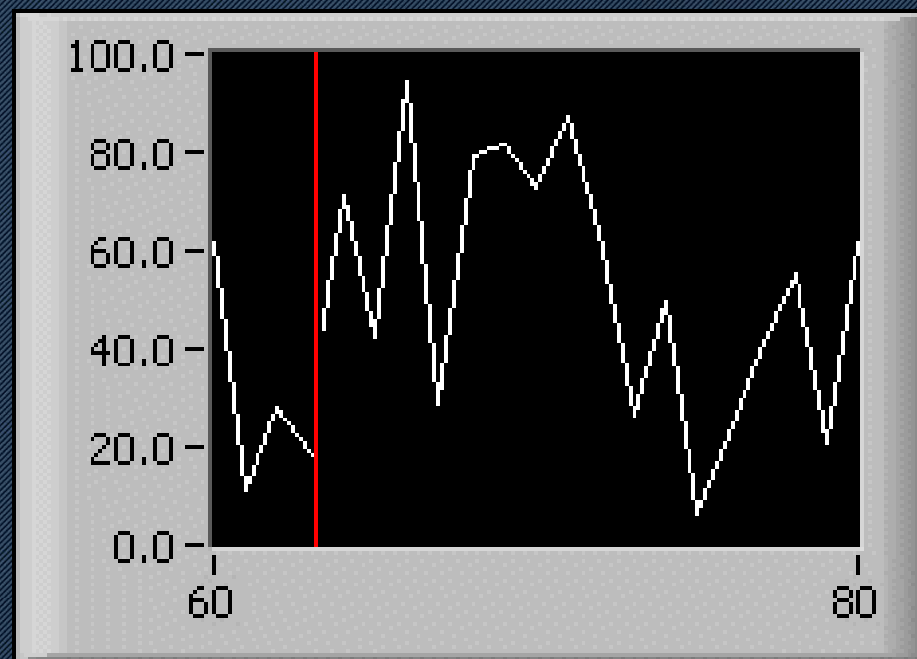
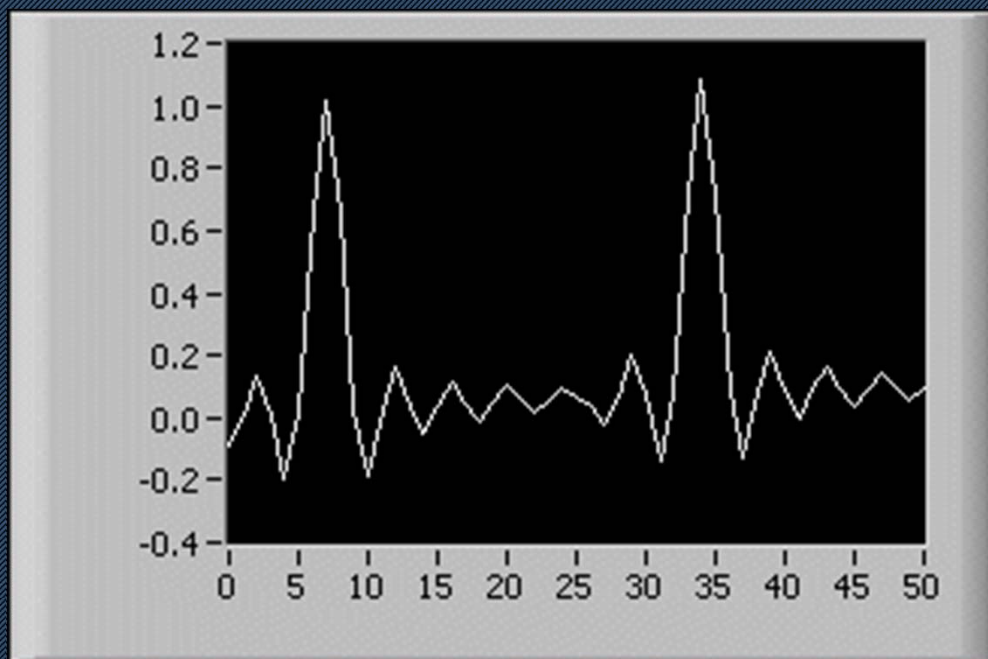


# Outline

- Waveform Graph & Charts
- Multiple Plots
- Customization
- Data Export

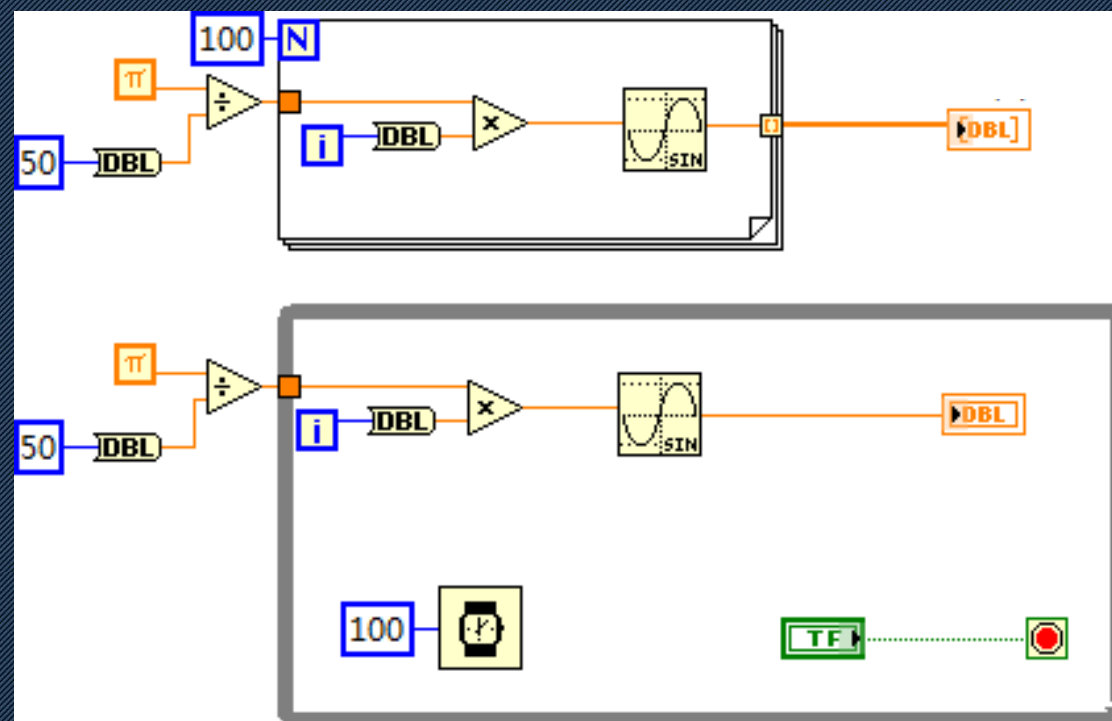
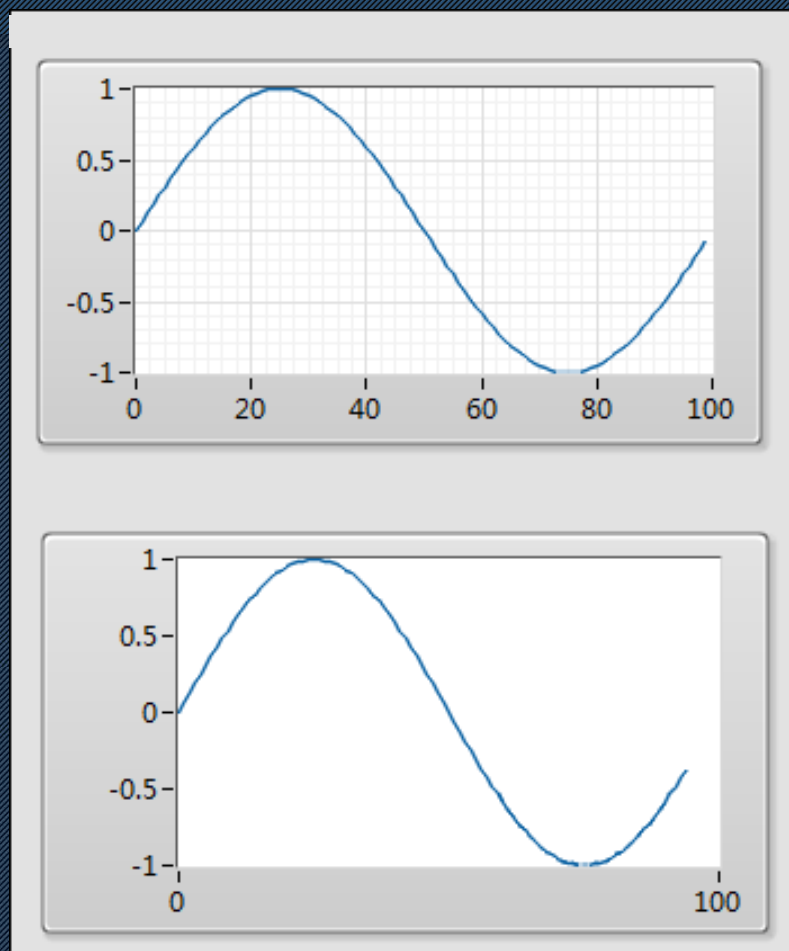


# Waveform Graph and Waveform Charts



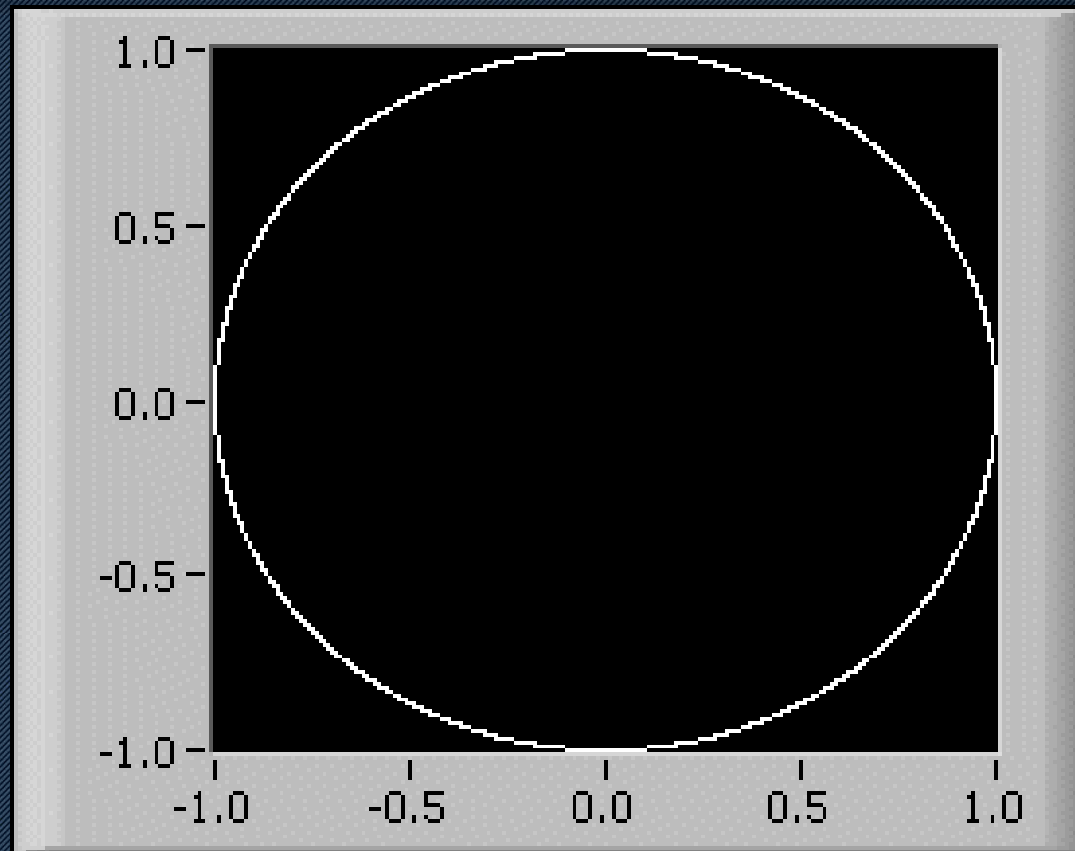


# Waveform Graphs and Charts





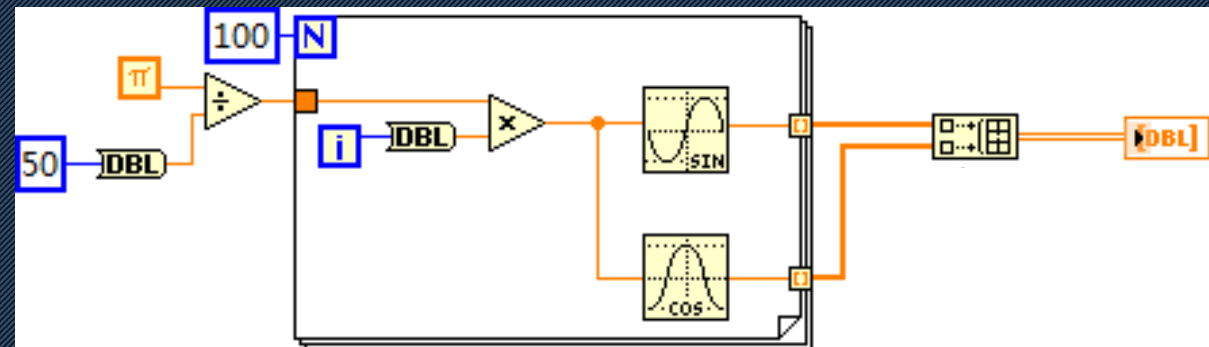
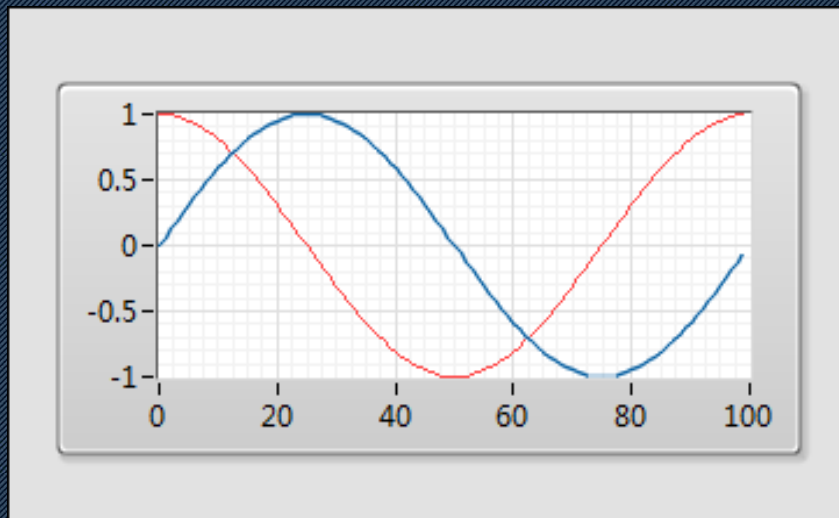
# XY Graph





# Multiple Plots Graph

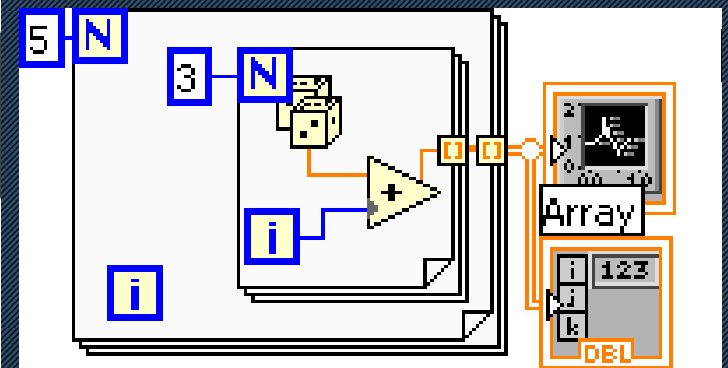
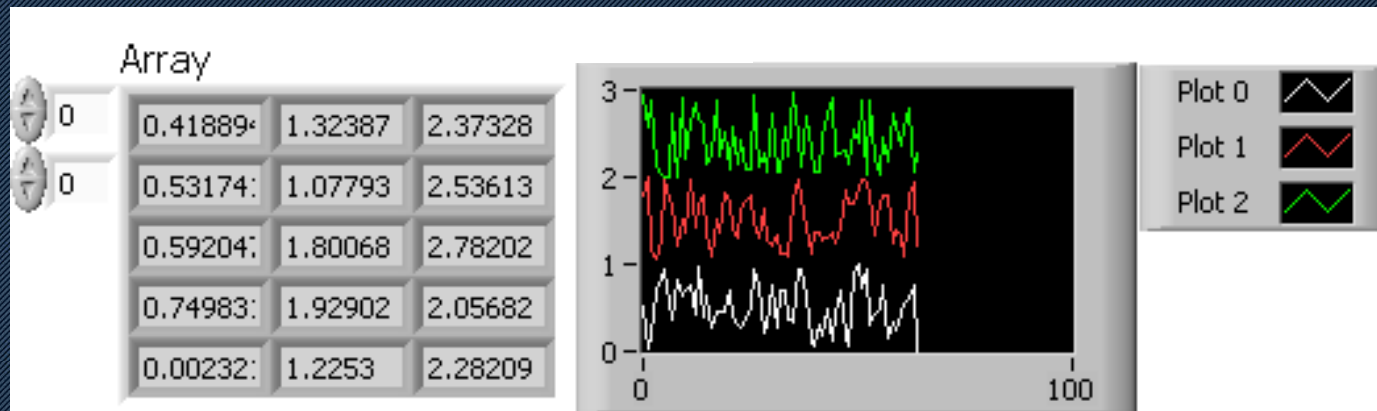
- Each row of the array is a single plot





# Multiple Plots Charts

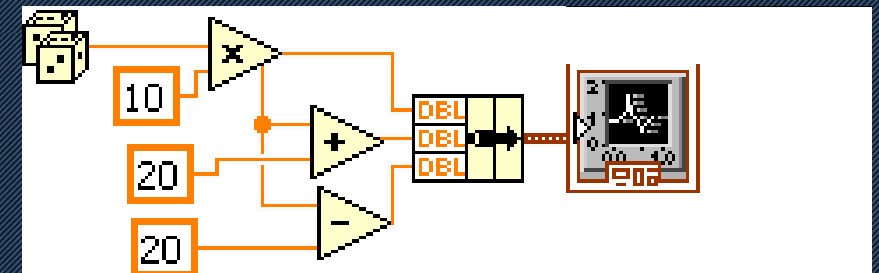
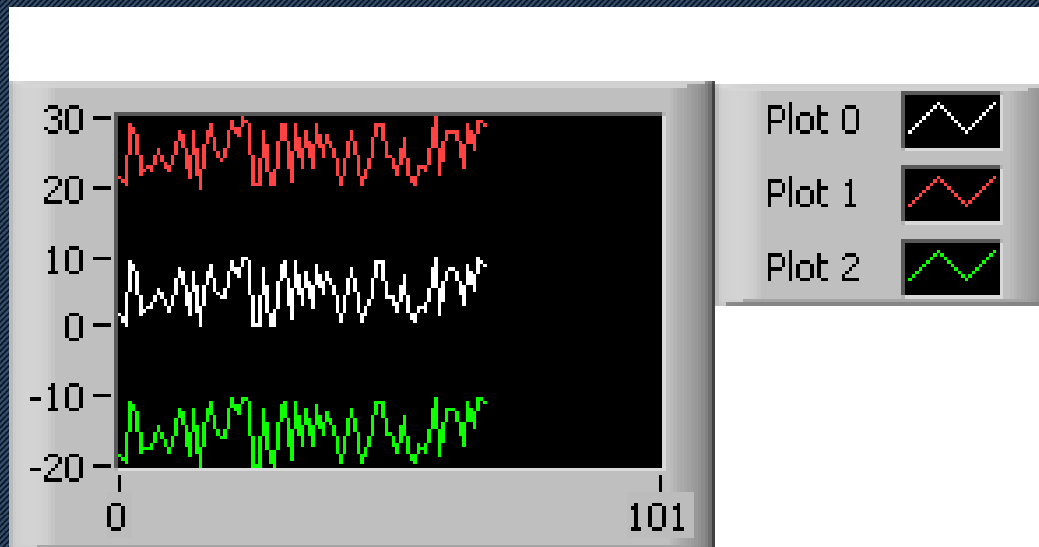
- Each column of the array is a single plot (default settings)
- Transpose array





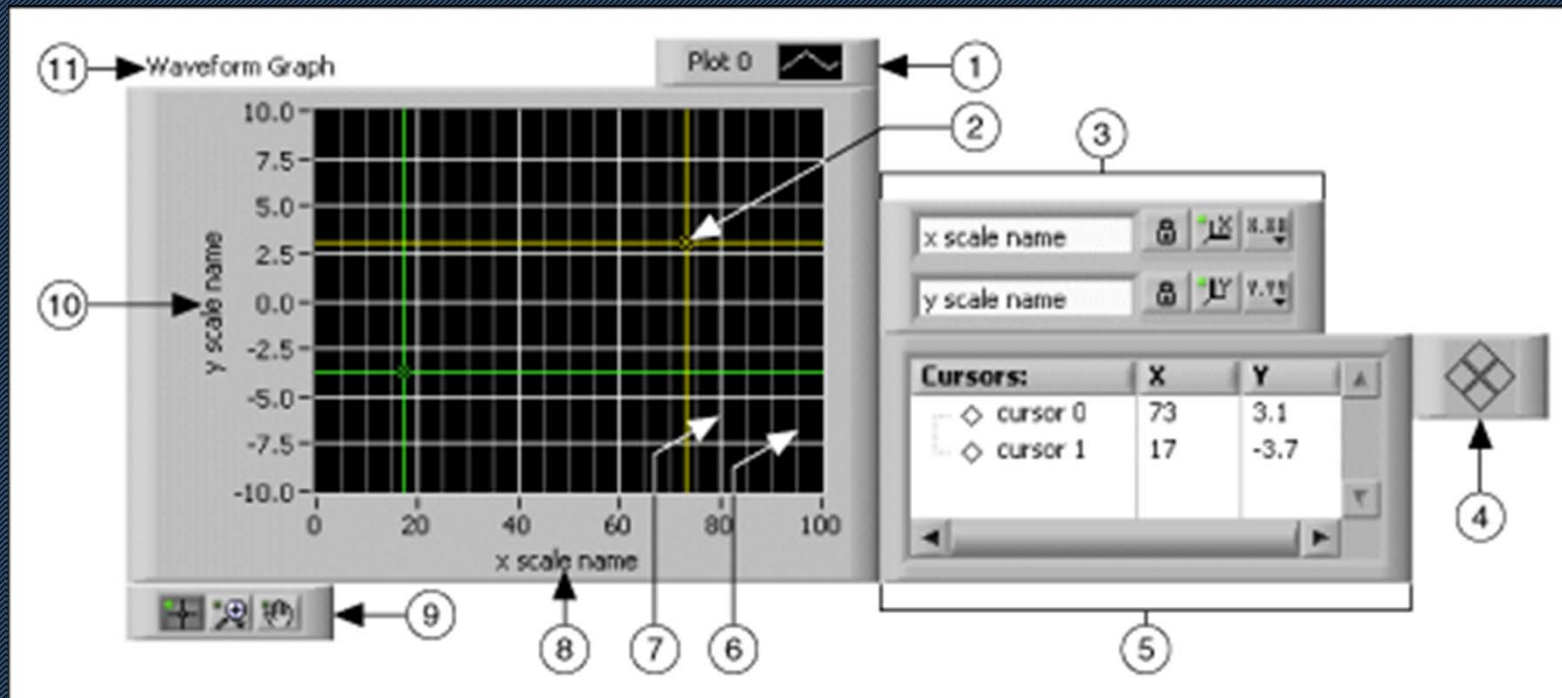
# Multiple Plots Charts

- Each array in the cluster is a single plot





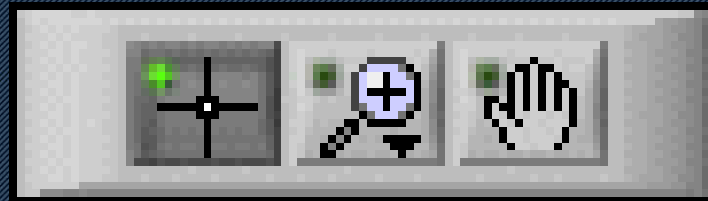
# Customizing Waveform Graph



1	Plot Legend
2	Cursor
3	Scale legend
4	Cursor mover
5	Cursor legend
6	Minor-grid mark
7	Grid mark
8	X-scale
9	Graph palette
10	Y-scale
11	Label



# Graph Palette



- **Cursor Movement Tool**—Moves the cursor on the display. This button applies only to graphs.
- **Zoom**—Zooms in and out of the display.
- **Panning Tool**—Picks up the plot and moves it around on the display.



# Using Scale Legends

- Use the Operating tool to click the Scale Lock button, shown as follows, to toggle autoscaling for each scale.



- Use the Autoscale button, shown as follows, to adjust the scale to reflect the data you wire to the graph or chart.



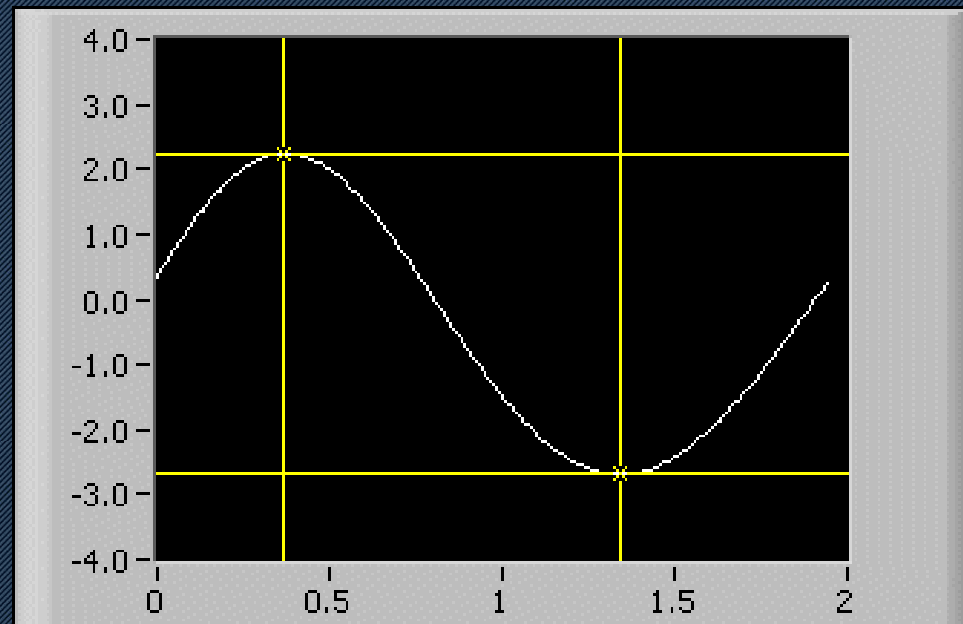
- Use the Scale Format button, shown as follows, to configure the format, precision, and mapping mode, set the visibility of the scale and scale label, and specify the grid color.





# Create a Cursor

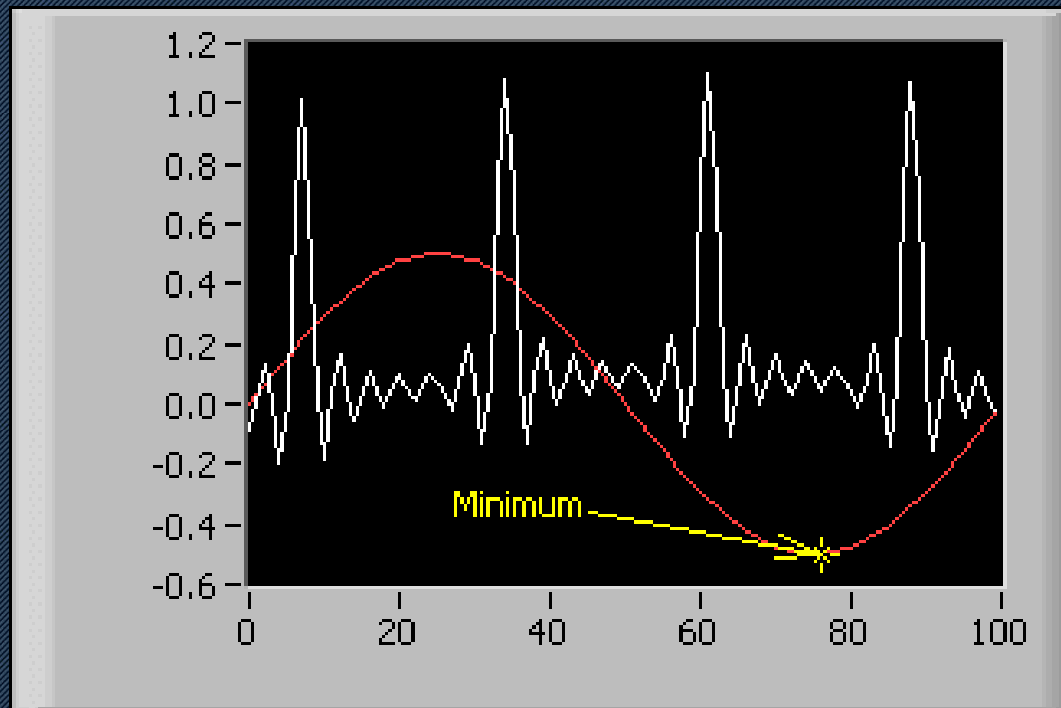
To add a cursor to the graph, right-click anywhere in the cursor legend, select Create Cursor, and select a cursor mode from the shortcut menu.





# Using Graph Annotations

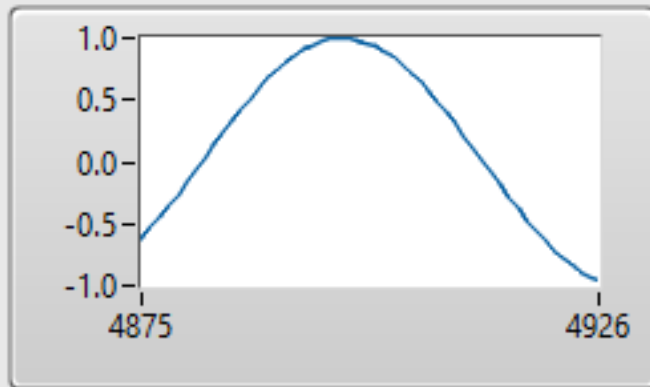
Right-click the graph and select Data Operations→Create Annotation from the shortcut menu to display the Create Annotation dialog box.



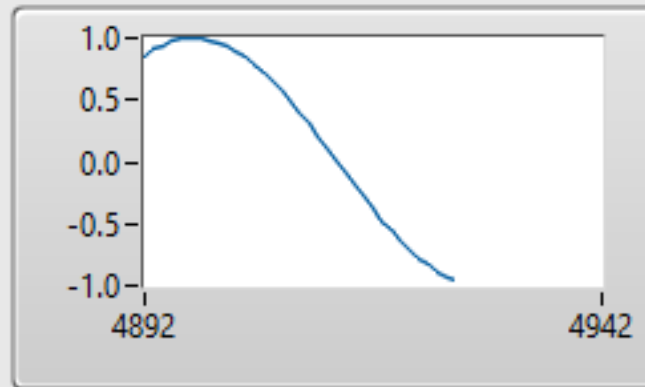


# Waveform Chart Update Mode

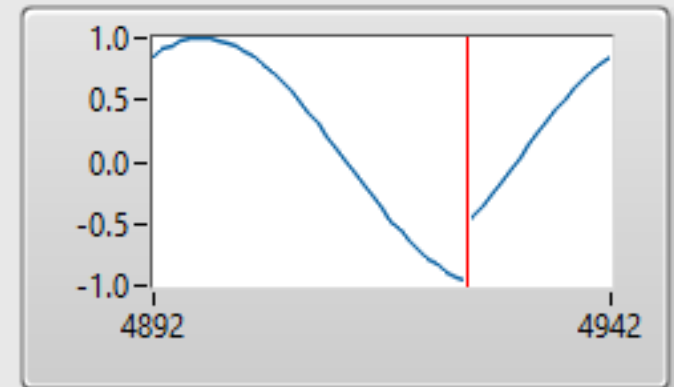
Single Update (Strip Chart)



Single Update (Scope Chart)



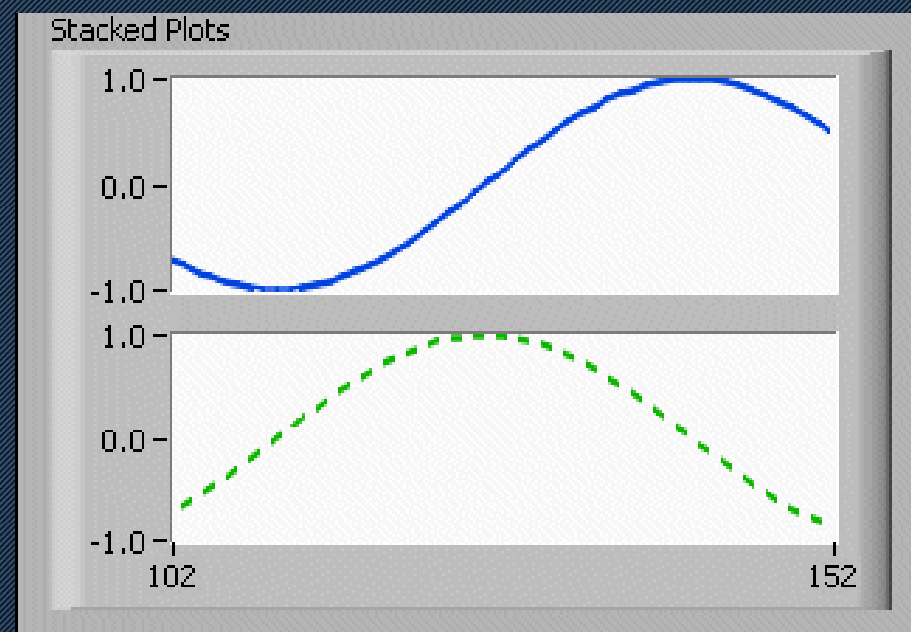
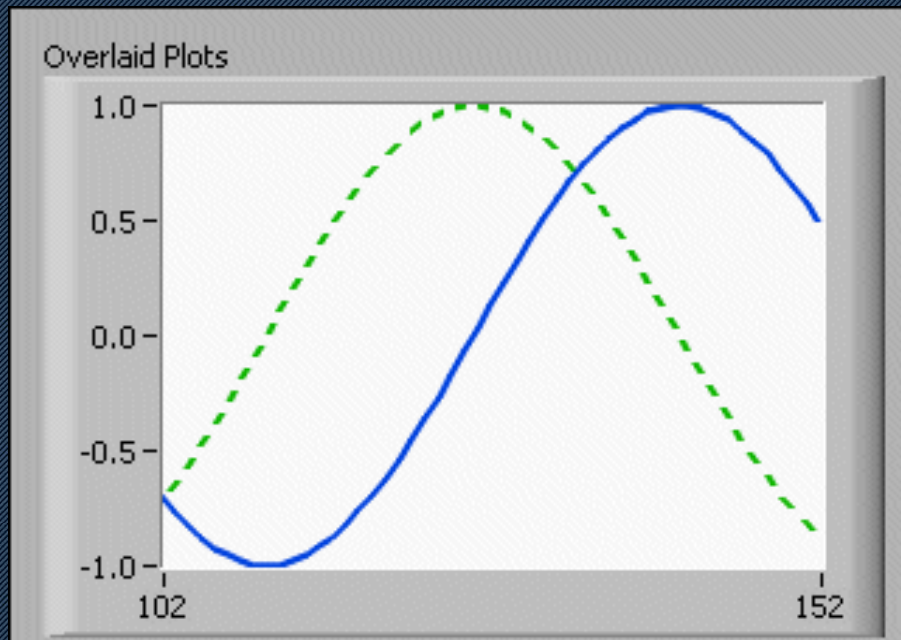
Single Update (Sweep Chart)



Right-click the chart and select **Advanced > Update Mode** to choose between **Strip Chart**, **Scope Chart**, and **Sweep Chart** update modes.

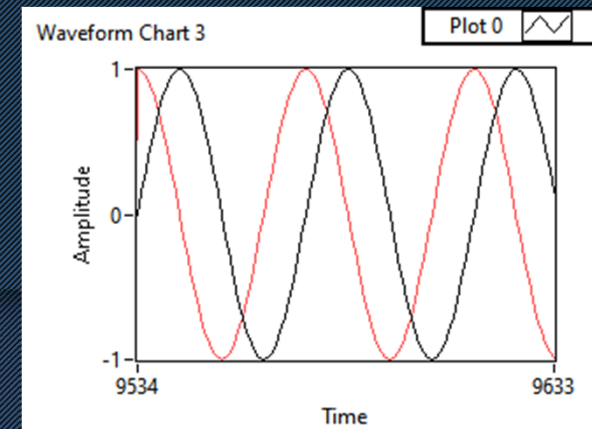
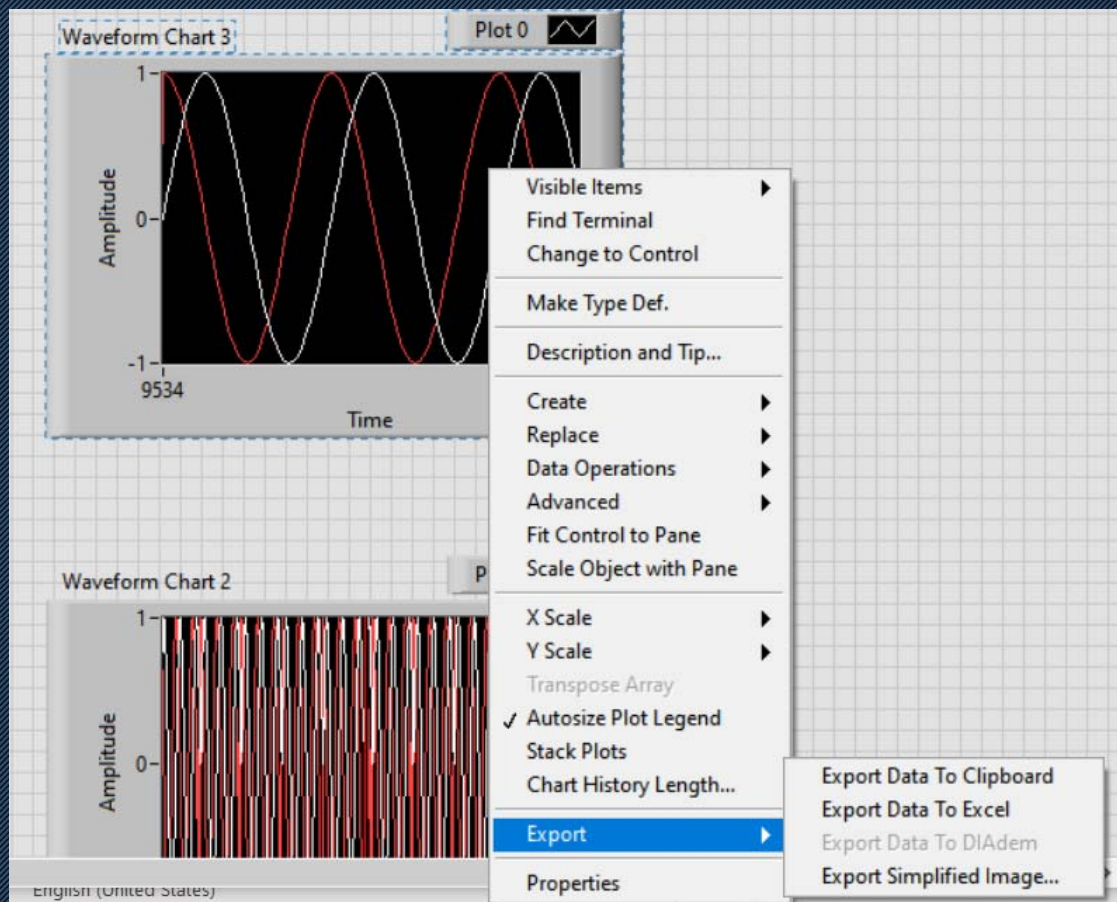


# Using Overlaid and Stacked Plots





# Data Export



1	Time - Plot 0	Amplitude - Plot 0	Time - Plot 1	Amplitude - Plot 1
2	9534	0	9534	1
3	9535	0.156434	9535	0.987688
4	9536	0.309017	9536	0.951057
5	9537	0.45399	9537	0.891007
6	9538	0.587785	9538	0.809017
7	9539	0.707107	9539	0.707107
8	9540	0.809017	9540	0.587785
9	9541	0.891007	9541	0.45399
10	9542	0.951057	9542	0.309017
11	9543	0.987688	9543	0.156434
12	9544	1	9544	6.12E-17
13	9545	0.987688	9545	-0.156434
14	9546	0.951057	9546	-0.309017
15	9547	0.891007	9547	-0.45399
16	9548	0.809017	9548	-0.587785
17	9549	0.707107	9549	-0.707107
18	9550	0.587785	9550	-0.809017
19	9551	0.45399	9551	-0.891007
20	9552	0.309017	9552	-0.951057
21	9553	0.156434	9553	-0.987688
22	9554	1.22E-16	9554	-1
23	9555	-0.156434	9555	-0.987688
24	9556	-0.309017	9556	-0.951057



# Studio



Use Signal Processing->Signal Generation->Sine Pattern.vi to produce the pattern as shown in the figure

