
Particle Analysis and Display System (PADS): General Summary Module

Operator Manual

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PADS 2.5.6

General Summary Module 2.5



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1.0 Introduction

The Particle Analysis and Display System (PADS) is a software package that interfaces with all the instruments produced by Droplet Measurement Technologies (DMT) and other leading instruments used in the atmospheric sciences. This manual describes the PADS module for the General Summary display, which allows you to view and analyze data from several instruments simultaneously.

For an explanation of the basic PADS setup and instructions on how to acquire data using PADS, consult the *PADS Operator Manual*. This manual also gives definitions for all the channels that the General Summary can display.

2.0 Configuring the Display

Because the General Summary tab displays data from several different instruments, you cannot use the General Summary screen to configure instruments. Therefore, the **Configure Instrument** option on the **Configure** menu has been grayed out. If you want to configure an instrument that has data displayed in the General Summary tab, click on that instrument's tab in PADS and select **Configure Instrument**.

To configure the General Summary display, follow the steps below.

1. Click on the “General Summary” tab.
2. From the **Configure** menu, select **Configure Display**. You will see the following window.

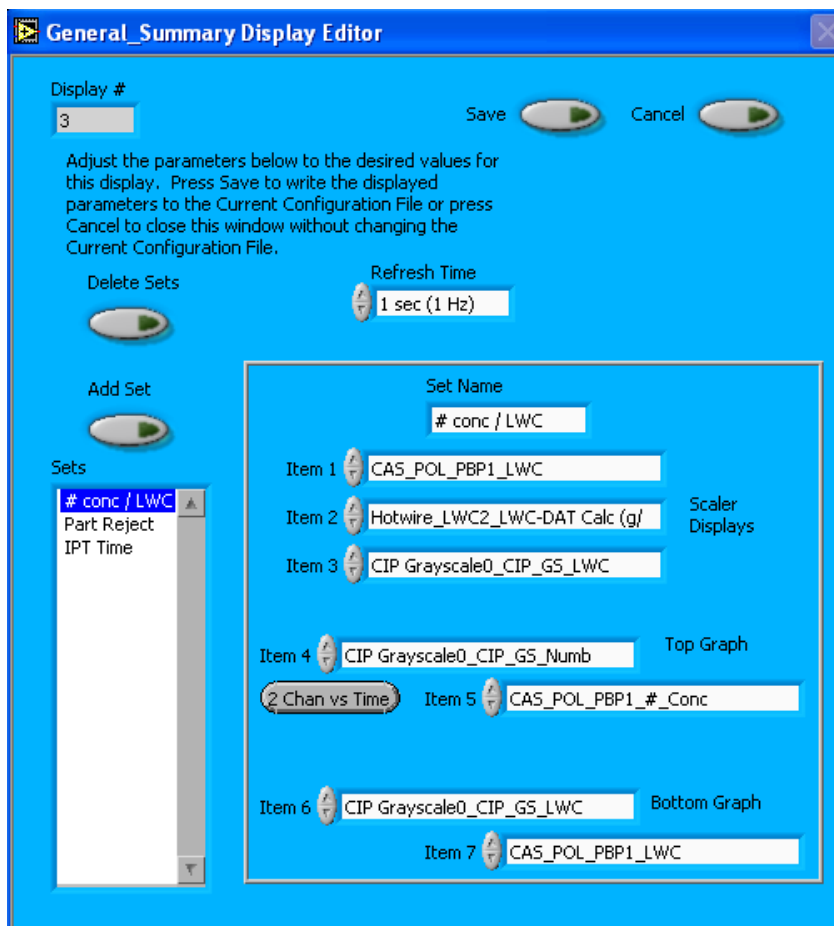


Figure 1: General Summary Display Editor Window

You do not need to modify the **Display #**. Changing the **Refresh Time** allows you to set the time intervals for data display during acquisition mode; you can choose any time that is equal to or greater than the instruments’ sample times. (Choosing a time less than the sample time is not useful, since the same data will be displayed multiple times.) If the instruments displayed on the General Summary tab have different sampling times, setting the refresh time to that of the fastest sample time will update the data whenever any new data become available.

The Display Editor allows you to define sets of data that the General Summary displays. A set is basically a single configuration of the General Summary display. It specifies items 1-7 that PADS uses in this display. (Figure 2 illustrates where these items appear on the General Summary display.) Note that any set can include channels from any instrument in the system. For instance, you might define a set called “LWC” that displays and graphs LWC readings from various instruments. For information on channels and their definitions, see *Appendix A of the PADS Operator Manual*.

The button to the left of item 5 allows you to specify how a given set should graph items 4 and 5—with respect to each other, or with respect to time.

The box in the bottom left of the Display Editor lists all the available data sets. You can add sets and delete sets using the buttons above the box. When you add a set, you specify the set name and all the item numbers using the controls in the box at the bottom right of the display editor.

Note that all of these parameters are also changeable from the General Summary display itself, as discussed in section 3.0. Changing the parameters directly on the General Summary display changes them for the current session only, while changing them on the Display Editor window creates parameter sets that are also available in future sessions.

When you are done changing parameters on the Display Editor window, click on **Save** to update the configurations or **Cancel** to revert to the previous configurations. After you reset PADS, you will be able to see any changes by viewing the General Summary display. Note that clicking **Reset Program** will clear out any data currently being displayed.

3.0 The General Summary Window

The General Summary window displays channel data in both numeric and graphical form. At the top of the window, three user-selected time-specific data channels are displayed. These channels correspond to Items 1 - 3 on the Display Editor window (see Figures 1 and 2). PADS displays the data values just to the right of the field listing the data channel names. In Figure 2, for instance, the CAS_POL_PBP's LWC is 0.00146 g/m³ at the sample time shown.

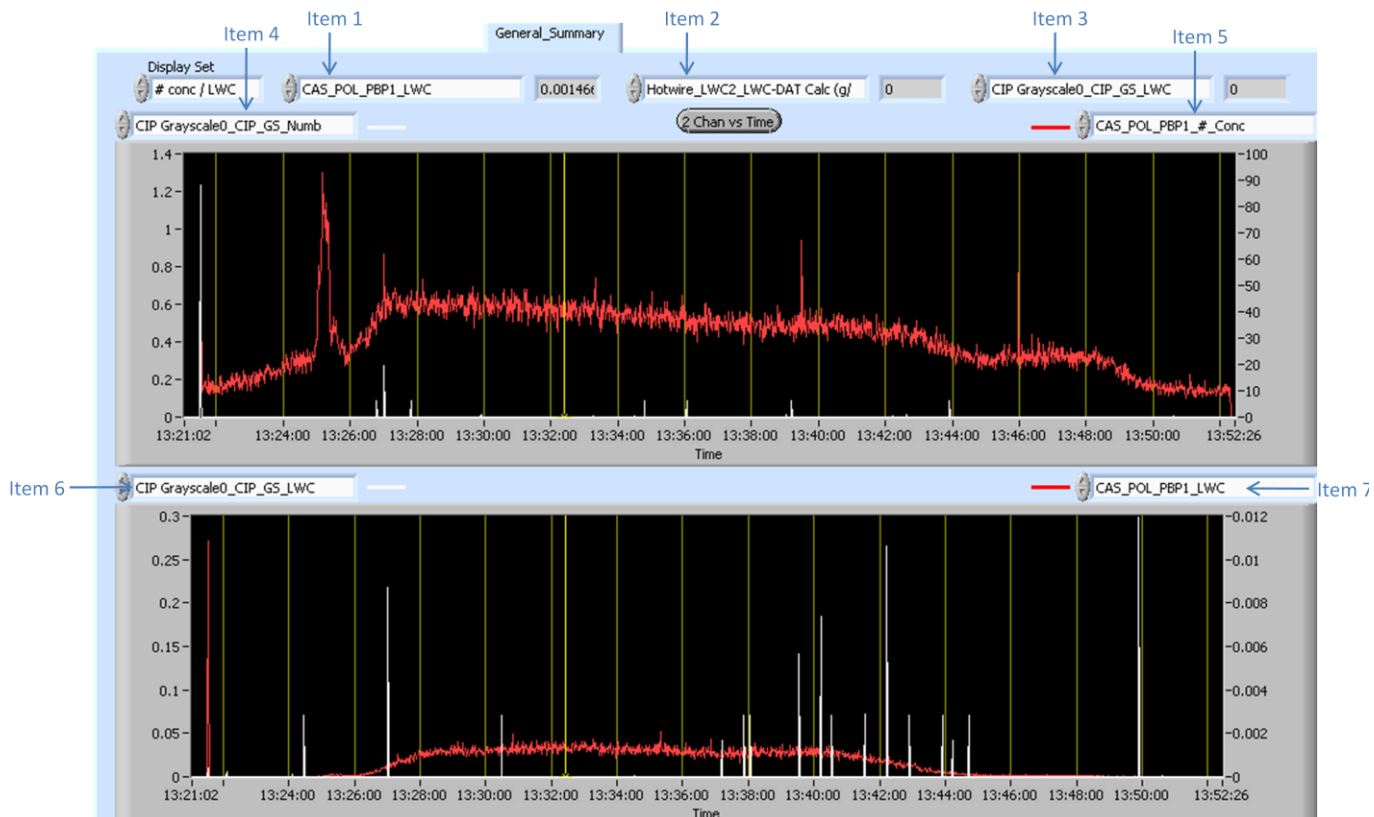


Figure 2: Configurable Items #1 - 7 on the General Summary Display

Items 4 and 5 determine the channels PADS displays in the top graph. By default, PADS displays both of these channels with respect to time. Item 4 is displayed in white and has its legend on the left side of the graph. Item 5 is drawn in red and has a legend on the graph’s right side.

You can change default time-series setting upon start-up by pressing the **2 Chan vs. Time** button on the Display Editor screen. This changes the button so it reads **Chan vs. Chan**, and the General Summary’s top graph displays the two channels with respect to each other.

Items 6 and 7 determine the channels PADS displays in the bottom graph. Item 6 is displayed in white and has its legend on the left side of the graph. Item 7 is drawn in red and has a legend on the graph’s right side.

If you have created sets on the Display Editor screen (see section 2.0), you can display these pre-specified channels by selecting the desired set in the **Display Set** control in the upper left of the screen. You can also change the channels being displayed by directly editing the item fields shown in Figure 2. If you modify the item fields this way, the **Display Set** value changes to “User Defined.” You can revert to a pre-defined set by selecting that set in **Display Set**.

For information on specific channels, their definitions, and their acceptable ranges, consult *PADS Operator Manual's Appendix A: Definitions*.

When you access time-series charts in playback mode, the currently selected moment in time is indicated by a yellow cursor. The y-axis value for this time is indicated by cross (+) on this cursor, as shown in Figure 3. This y-axis value is always for the channel listed on the left side of the graph, i.e. the one that PADS displays in white.

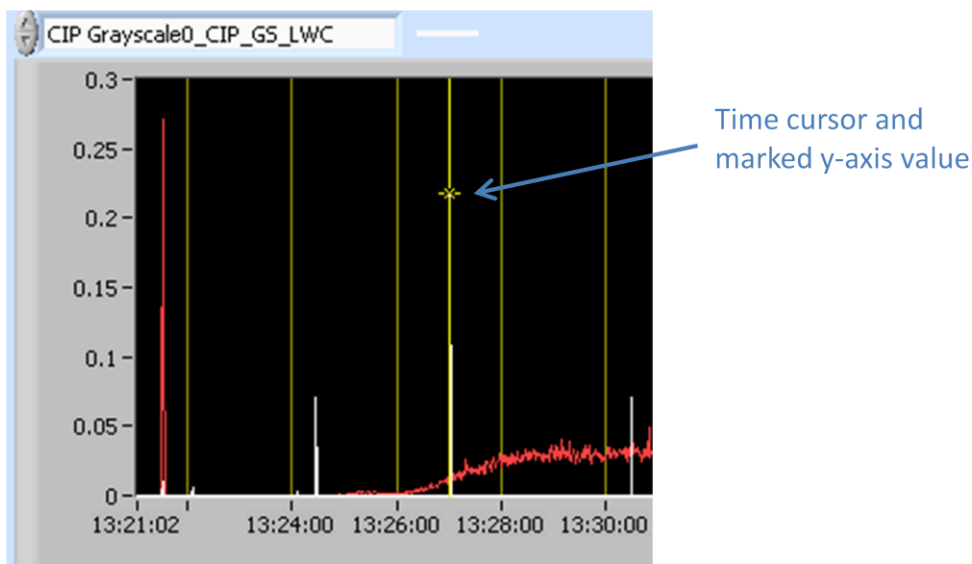


Figure 3: General Summary Display Time Cursor

Note that when you display a large range of time-series data, the chart display does not have sufficient resolution to display each individual time point. To increase resolution, zoom in on the data by changing the time interval to a smaller range.

On both the top and bottom charts, you can change the scale by typing a different number into the starting and ending values on each axis. For instance, if you want to change the time period in the graph above to start at 13:26:00, you simply select the field that currently says 13:21:02 and type in 13:26:00.

The charts also show you options for scaling and copying the data when you right-click on them. These options are as follows:

Autoscale This autoscales the relevant axis. In autoscaling mode, the minimum and maximum values of the axis are set automatically so that all data points can be seen in the display. Note that on charts that have autoscale buttons, like the large histogram chart on some instrument tabs, the buttons override the Autoscale options in the drop-down menu. To see autoscaling options in the drop-down

menu, position the cursor over the relevant axis before right-clicking. Note that you may not always be able to autoscale the x-axis.

Copy Data This copies the chart to the clipboard using a screen capture. This chart can then be pasted into other documents like Word or PowerPoint presentations.

Export Simplified Image This copies a simplified image of the data to the clipboard or an output file. You can choose the format you desire—bitmap (.bmp), encapsulated postscript (.eps), or enhanced metafile (.emf). Note that when you select the .eps option, you must copy the data to a file. Unless you specify otherwise, output files will be saved in the time-and-date-specific output file directory for the current session.

Clear Graph This erases the currently displayed data points from the graph.